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Original Articles

SOME APHORISMS OF THE ENDOCRINES*

FOR THE BETTER INSTRUCTION OF THE INSTRUCTORS IN SOCIAL AND POLITICAL ECONOMICS

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INVESTIGATORS AND AUTHORITIES

Caius Julius Solinus (III Century). First description of case of Pituitary disease. Polyhist. Cap. V.

Bedeu, Theophile de (1767), advanced the theory that each tissue or gland secreted its own peculiar substance, and that each was necessary to life.

Claude Bernard (1843) discovered glycogen.

Moritz Shiff (1856) found excision of thyroid of dog always fatal.

Sir William Gull (1873) and Ord. (1877) described myxedema.

Robert Graves (1835) described ex-ophthalmic goiter.

Addison: (1849) Addison's disease.

Theodor Kocher (1878) first thyroidectomy for goiter.

August Reverdin (1882) proved possibility of production of operative or surgical myxedema.

Sir Victor Horsley (1884) repeated Reverdin's experience with monkeys.

Sir Felix Semon (1888) proved cretinism and myxedema identical.

Brown-Sequard (1889-1893) experimented with testicular extracts.

Opie, Ssobolew and McCallum (1892-1909) worked on problems relating to the Islands of Langerhans in the pancreas.

Eugene Baumann (1896) discovered iodine in the thyroid.

Ivar Sandstrom (1880) proved para-thyroids necessary for calcium metabolism.

Leischman and Halsted: (1909) Tetany and the para-thyroids.

Oliver and Schaefer: (1895) Division of the pituitary.

Howell: (1898) Function of posterior lobe of pituitary.

Sajous: (1903 Work on the Hormonic organs.

Harvey Cushing: (1910) His work on the function and surgery of the pituitary body.

Up to the present time only Pituitrine, Epinephrine and Iodothyrine have been isolated.

No discovery in any field of knowledge is of value until it finds its application to man for the benefit of mankind. The gateway for the application of such knowledge is most frequently through the Science and Art of Medicine, but in the case of the application of our present knowledge of the endocrines, that method is inadequate; and if results are to be obtained that shall be of value to the race, the teachers of economics must share in our service of application, and we must first teach them.

The teaching of economics in all its branches in our universities is in a great degree false and inadequate, for the reason that its premises are not in accordance with now recognized and established physiological knowledge.

The artisan does not attempt to produce a satisfactory product, except he be thoroughly familiar with the raw material with which he works. Does the professor, whose material is the human animal, know the newer facts in regard to the physiology and psychology of *man*: the animal that is *his* raw material? If we are to judge from the products of much professorial reasoning, the answer is, *"No!"*

Has the time arrived for a new Vesalius, or a new Harvey to hold up the lantern of knowledge that the professor's mind may be illumined and made receptive for a new and better basis for his teaching?

*Read before the Tri-State District Medical Association, Oct. 4-7, 1920, at Waterloo, Iowa.

All human acts are the result either of instinct, or of conscious or unconscious cerebration,—what is called "thinking."

With the first—Instinct—I have nothing to do in this paper. My thesis will be "With what do we think?"

Among the earliest theories with relation to the use of medicines for the treatment of disease or for the purpose of changing the dispositions of men or women, appears the thought that by feeding an individual parts of an animal that was particularly celebrated for fleetness of foot, or for bravery in the fight for life, the man thus receiving this flesh or parts of such an animal would soon begin to partake in his character of the characteristics of the animal whose flesh had been fed to him.

This belief has persisted in the history of medicine throughout all time and is common today in the beliefs of many peoples. It was perhaps from the observance of this belief among the people that Theophile de Bordeu in France about the year 1750 brought forward his theory that every tissue and gland of the body secreted its own particular and specific substance, and that every such substance was essential to the welfare of the body.

So far as we know, this was the first time that the idea of specific function was attached to the secretion or production of any of the tissues, and it was the beginning of the steps that led after a period of a little over 125 years, to the investigations that have given us our present knowledge of the ductless glands or the endocrine system, and of the tissues and organs which take so important a part in the maintenance of function and of growth in our physical economy.

It is not my intention to go minutely into the history of the development of our knowledge. If this paper is printed there will be attached to it a chronological list of the important investigators, the date of their work and the advances they had made in this line of study.

It is my purpose to show as briefly as may be possible what the endocrinic organs and tissues are, their various classes, and to renew in your minds, perhaps, your previous knowledge of the important position they play in the processes of cerebral activity.

The glands which produce a special secretion which activates some other organ or a series of organs at a distance from the gland or tissue producing the secretion, may be classed roughly in three orders. First: Those that are entirely ductless and which produce but one secretion, which is poured directly into the blood. These are the supra-renal capsules, the thymus, the thyroid, the para-thyroids, the carotid gland, the pituitary body and pineal gland, and the spleen. Second: Those glands which produce secretions of a similar character but which have ducts for the transmission of other secretions produced by them, are the liver and the pancreas, in the latter of which are lodged the Islands of Langerhans. Third: Those which have mixed function but which are not to be classed directly in either of the two preceding divisions, are the hormonic portion of the stomach and mammary glands, the ovaries and uterus, at certain times the placenta the testicles and probably the prostate.

There are undoubtedly other areas, glands or organs in the body which perform endocrinic functions which are yet to be discovered.

It will be seen that these organs belong to two groups, each having its own special form of nerve supply. The liver and the pancreas and some of the organs of the mixed group are supplied and regulated from branches of the vagus, while the others derive their inervation from the sympathetic system of nerves. Nevertheless, each group is self-composed and is, therefore, called autonomic; the group supplied by the vagus being known as the "vagal-autonomic," while those glands which derive their inervation from the sympathetic nerve system are called the vegetative system, or the "vegetal-autonomic." Not all the organs or tissues which produce endocrine material or hormones are in constant function, as for instance, the endocrinic function of the uterus or mammary glands is limited to special times and periods. Hormone arising from the placenta is only active during the period of gestation, but generally speaking, the secretions of the organs of the two systems are being constantly produced and being sent into the body by way of the blood, to activate distant organs in the performance of their own special function.

It is to be remembered that function of these hormone producing or endocrine organs is one that is performed entirely without consciousness, volition or control on the part of the cerebrating portion of the nervous system.

There is always in existence in the normal individual a condition of control called the "hor-

monic balance"; it being that state of equilibrium which exists between the stimulative or irritative action of the products of the endocrine organs of the vegetal-autonomic system, and the inhibitive action of those of the vagal-autonomic system.

The special products of the vegetal-autonomic system, like the thyroid, para-thyroid and the adrenals are mostly stimulants to function of distant organs, whereas the endocrine products of the vagal autonomic system are inhibitors. The foregoing general statement being granted, and the intimate relation existing between the function of these specific hormone producing tissues and organs, and the organs and tissues that are acted upon by their products, being understood, it will be clear to you that there is apparently no organ in the body which is not in some degree dependent for its functional activity upon stimulation sent to it by the hormonic substances derived from endocrine glands or tissues placed at a distance from it.

It is not the purpose of this paper to take up the problems of the varying results produced upon the body as a whole by the excessive action or continued diminished action of any of these glands. You are all of you familiar with the literature of hypothyroidism and hyperthroidism, of the results of hypo-epinephrism and hyper-epinephrism, and of defective action of the different parts of the pituitary body. That part of the subject of the functioning of the endocrine organs does not relate to the thesis of this paper.

It is my purpose to draw your attention to the particular modification of the processes of thought that are the result of the failure of action of any or of all of these endocrine organs and to place before you if possible the problem which confronts all our past system of political and social economy which has been based upon a theory that human motives and human acts had their origin in a brain which worked by itself, uninfluenced by any other organs in the body.

It is not my intention to discuss the problems of conditions of mentality that come under the head of the insanities, or those that are the result of retrograde metamorphoses of the structures of the cerebrating organs in the skull, but only to attempt to attract attention to the one outstanding fact that the nature or quality of human ratiocination is dependent upon the harmonious functioning of the brain and the endocrine organs.

Let us examine for a moment an instance of what I mean by this. It has been shown that any emotion, passion, pain or grief stimulates the production of the product of the supra-renal capsules and that accompanying every shock, whether physical or mental, there is an increased amount of the product of the supra-renal thrown by it into the blood. No doubt the endocrine material from many other endocrine organs is in some degree also produced under such circumstances. It is probable, in fact well-nigh proven, that the presence of the supra-renal juice in the blood stimulates in a great degree the emotional portion of the brain, and it is safe to say that emotion produces intellectuation; so we are secure in stating that there can be no intellectual cerebration that has not been induced first by an impression, then by emotion. The series of events being: Impression, percept, emotion, concept, intellectuation, action.

Even as there exists an hormonic balance between the functioning of the two autonomic systems so also there must be—in order that intellectuation can take place with anything like normality—a balance existing between the capacity of cerebration and the endocrine impulse, that is produced upon the more intellectual side of the brain through its stimulation of the emotions.

We know perfectly well that increased function of certain of the endocrine glands produces strange deformities in the processes of growth of the tissues of certain parts of the body; e. g., the effect of a diminished supply of the secretion of the anterior portion of the pituitary body produces those strange symptoms known as hypopituitarism. It is quite as certain that the effect of an excessive supply in the blood of the products of the endocrine glands brings about modifications of the functioning faculty of the brain, just as they produce modifications of growth and function of other portions of the body.

The literature pertaining to this subject is rapidly increasing and the laboratory work tending to prove my last proposition is not wanting. What I have said thus far will serve as a foundation for the proof of some of my aphorisms in their entirety and partially for all of them.

An understanding of this relationship that exists between the action of the products of the endocrine glands upon the emotions and intel-

lectuations produced in the brain, furnishes an excellent basis for an understanding of the character of that group of men who are called "high-class morons"; although the term in its strict meaning does not apply to them. One has but to examine the figures and faces of the greater number of men and women who are engaged in promoting radical, anarchistic, socialistic and bolshevistic theories, to recognize that their faces show the stigmata of physical changes which are due in some degree either to hyperaction of the endocrine system or to a hypoaction of that system. It is a great pity that such men and such women are of a sufficiently high grade of intellect as to be capable of impressing their absurd notions of social order upon the youth of our country during the time when it is seeking education and culture in our universities.

The sophomoric age of young men and young women is the one during which their brains are most affected by the functioning of the sexual endocrines and when, with their heads full of romance, they listen to the lectures of their professors—whom they are led to believe are very wise men—they absorb all sorts of absurd notions of social and political economy which are founded upon theories which give no recognition to the endocrine system of the body and are enunciated by men utterly ignorant of the physiology and psychology of their production and function.

The writings of some of the professors in some of our universities upon economic subjects give evidence of such utter ignorance in regard to matters depending for their solution upon a recognition of the need for harmonious function between the endocrine systems of the body and the cerebral part of the nervous system, that one, even with a superficial knowledge of this need, stands astounded at the professorial ineptitude.

At this time it is impossible for any man to dare to state that thinking is done by the brain only. But these theories are extremely plausible and to the romantic mind of the emotional youth and upon those peculiar minds of certain races—among others the Semitic and the Celtic—that are characterized by a greater love for emotion than for logic, they leave a lasting impression, and result in the effort on the part of the disciples of the plausible but ignorant speaker, to carry out his theories in the most absurd transgressions of social order and in threatenings of destruction of the civilization that has been builded upon a foundation of the experiences of all the ages.

The present widespread disturbances of social order are the direct result of the teachings of men, presumably qualified to lead, who, themselves suffering from a lack of balance between endocrine and cerebral function, teach theories of political economy, ethics and social economics, while utterly ignorant of the physiology of the body and of the relations of the endocrines to psychology. The present economic situation in the world is the direct outcome of perversion of endocrinic activity through exaggeration of the emotional side of cerebration at the expense of the intellectual side; for endocrinic activity stimulates emotion; and again emotion creates endocrinic activity and a vicious circle is formed.

It is unfortunate at the present time, when it is necessary that every educated person should be prepared to stand firmly upon a foundation of common sense in regard to social order, that the teachers in our universities promulgating such theories as I have mentioned, have the opportunity to be heard by so large a number of young women. For, say what you will, a woman remains always a woman, and it is an essential and unchanging factor of her nature, that her emotions are more precious to her than her intellectuations. The results of such teaching falling upon the plastic nature of the naturally emotional part of humanity are leading to endless complications in social life, and while these complications can have no lasting term of existence through any great period of years, yet while they do last they are productive not only of great disorder, civic and moral, but also of notable degeneracy in the attitude of women toward those things which are naturally their normal function and normal purpose for existence.

We of our profession are being constantly brought face to face with some of the problems which are the result of the persistence of endocrinic action upon the emotional side of women after the menopause. Some of these are extremely amusing and some tragic. It has been my experience that women who reach the menopause go in one of three directions. The first and the greater number become the dear, sweet, lovely old ladies; another group still feeling the effects of the endocrinic stimuli of the ductless glands, become distinctly sexually immoral; while the third group becomes entirely derailed. The

mother instinct still persisting, they become meddlesome busybodies, useless interferers in everybody's affairs, wildly desiring newspaper notoriety thinking it to be notability, and a reputation for prominence. This latter class form one of the curses of modern society, and there seems to be no solution for the problem which they present.

Yet we of the medical profession can possibly forgive them, for with our knowledge of the endocrine function of certain portions of their bodies, we recognize the spark of truth which was enunciated by the wise Arabic philosopher, Moarbeda, and the philosopher of Bologna, who said their faults should be forgiven them for "they were the work of the womb."

Nor are men free from the effects of persistence of sexual endocrinic function, after the age when the spinal impulse is diminished. All about us we see instances of "old men in love"; with irritated prostates and partially functioning endocrine organs leading them to believe that they are in love, when really they are being deluded by the endocrine function and the irritable bladder. *Both disturbances might be removed by a proper use of a catheter.* If we are permitted to reason backward, from effect to cause, we shall conclude that the acts of many men with irritable prostates, even those in very high places, are the result of loss of endocrine-cerebral harmony. I sometimes think that we are now living under a prostatic administration, in an era of dominance by fat-thighed men and skinny-hipped women.

Again, as the result of the persistence of sexual endocrine production, we often see instances of the crime of the old man upon the body of the young girl or the little child. It is a problem. Is he to be blamed? It is not his intellect that is acting, nor the lumbar enlargemen of his spinal cord; it is a nervous and cerebral system entirely out of balance owing to the loss of harmony in the endocrino-cerebral functions.

One is appalled when one stops to consider what the world, and particularly our own country, has suffered since the time of its establishment, from a fixed belief in the political philosophy of Jean Jacques Rousseau and his *ideas* of *equality*, and from the imitating philosophy of Thomas Jefferson, as to mankind. The former a sexual-endocrinic pervert, and the latter a blind and worshiping follower of the former's errors.

In the statement of the aphorisms that I shall draw from the points in regard to the functioning of the endocrines in their relation to cerebration, I shall endeavor to point out some of the follies of these two men, that have been the foundation of absurd political theories, not only of our own country, but of the great group of anarchists, socialists, communists, bolshevists, *et id genus omne*.

It is a curious thing in the functioning of the endocrine organs in their relation to cerebration that the predominant and always recurring factor in every instance of disturbance of balance between the endocrines and the cerebrum, is the prominence of the sex factor. No one of the great social or politico-economic schisms that have ever appeared has been without its predominating sex problem. And for him who has read Mosheim's Ecclesiastical History, it is amusing to see how, throughout the ages since the beginning of the Christian era, with each century there have been from three to five outbursts of social or political disorder all running true to form, crowds of people following the lead of some perverted endocrinic maniac, whose ultimate purpose seems to have been to establish a cult for carrying out some special form of sexual or social perversion.

I beg now to offer for your consideration and perhaps condemnation a series of aphorisms which I have formulated as a result of my reading and the basis for which I have given you in what has gone before.

APHORISM NO. 1.

Reason by cerebration alone can take place only in the absence of any functioning of any of the endocrine organs, and the latter condition is not possible during life. Ergo: Purely cerebrational reasoning is impossible, unless reason be possible after death.

APHORISM NO. 2

No man is born free.

Every human being is born into the world shackled by his inherited quality of presence of normal or abnormal endocrines, and is a prisoner to their capacity for securing development of body and brain.

He is throughout his life in the custody of his surroundings, these the result of forces over which he has no control, and which he can make

conformable to his wishes, only by limiting his desires to the conditions which surround him. His *Political Freedom*—the outward manifestation of which is his privilege of the ballot—is more often an expression of an emotion than a reasoned conclusion. Through life he is the captive of his emotions, not their ruler. He is born into a tyranny from which he can never escape.

APHORISM NO. 3

No two men are created equal, either before the law or otherwise.

1. The inevitable difference of inherited tendency, and post-natal differences of development of the endocrine organs, in any two individuals—all other factors of existence being eliminated from the argument—make it impossible for any two individuals of the genus homo to be equal in any capacity.

2. Before the law no two men are equal, because the law is a thing of human production, and may be compared to a ready-made suit of clothes; it fits nobody exactly, but it approximates the fitting of everybody. The nearer it approaches fitting any two people, the nearer it comes to giving to that particular pair "equality before the law." But it never quite fits, for after all it is a thing of human production, and the greater cerebro-endocrinic competency of one man makes him more capable of securing the better lawyer than that of another.

Solon said: "Laws are like cobwebs; if any trifling or powerless thing fall among them, they hold it fast, while something weightier breaks through them and is off."

APHORISM NO. 4

Equality of opportunity is impossible.

Opportunity unrecognized does not exist, and as the capacity to recognize opportunity is the *Result of Ability*, and ability the result of *Reason*, and reason the result of balance between, or of harmony between cerebration and endocrine function, any disarrangement of either in any one of two individuals destroys their quality of opportunity.

APHORISM NO. 5

The sum of the experience of mankind throughout the ages is the only basis for social order. This experience has shown that the more competent individual must control the less competent, in order to secure the greatest good for both, and thus the welfare of mankind.

The reverse of this proposition would be unthinkable, and its functioning would destroy all progress.

APHORISM NO. 6

The individual with the better condition of endocrine harmony is always the more competent. The individual with the greater perversion of endocrine harmony is always the less competent, both in body and in cerebrating faculty.

Thus: If this be true, competence for success in life is a physical matter, not one dependent upon pure mental capacity, for purely mental function or purely cerebral reasoning has no existence.

APHORISM NO. 7

Man does not reason with his brain alone, but through the mutual and harmonious functioning of the contents of the skull and all of the endocrines of the two autonomic (vagal and vegetative) systems.

APHORISM NO. 8

Any disturbance of any of these inter-related groups prevents cerebration in harmony with accumulated experience, and such cerebration if acted upon to motivate action is always destructive of social and political order.

APHORISM NO. 9

Errors of endocrine balance in males and females of the species have produced many feminine men and more masculine women. That instances of special ability in individuals of the masculine-female type have occurred, does not prove that woman can in any way function or take the place of man in the cosmos; nor does the converse of the sex conformation prove that man can take the place of woman. In both instances, the physical, physiological and psychical conditions are endocrinic abnormalities, and such types are in the mass failures in both sex characteristics.

However nearly the hen may approximate the production of a praiseworthy crowing, or however closely she may imitate the strutting of the cock, at certain times she must, whether she will or no, squat and lay an egg. This is a beautiful and most praiseworthy function and one in the performance of which the cock would make a ghastly failure, and it is one, in the performance of which the cock has no desire to rival the hen. Why should the hen wish to crow?

APHORISM NO. 10

Any theories of social or political economy

that are not founded upon a thorough understanding of the functions of the endocrines in their relation to the determination of the characteristics of the individual, and thus the determination of the nature of the masses, are as houses builded upon the sands.

The artisan to produce good work must know the material with which he works. The artist must know his colors; the sculptor his marble. The privilege seems to be reserved only to the teacher of the vital theories of Economics, Social and Political, to attempt to produce peace and happiness, by promulgating theories concerning the foundation for which he is strangely ignorant, and of the nature of the material that is to be acted upon by his theories, he is indifferent.

APHORISM NO. 11

The quality of all cerebration, both emotional and intellectual, being dependent upon endocrinic and cerebral balance of function, and this balance being subject to constant derangement, the predicate of any postulate or proposition—except it be those of mathematics—is never conclusive and therefore no theorem of economics is or ever can be apodictically (finally) proven.

APHORISM NO. 12

Malingering both of bodily infirmity and of social discontent (and by this I mean exaggerated estimates of oppression, class consciousness, etc.) are evidences of endocrino-cerebral harmony derangement; and the latter is the most dangerous to society.

APHORISM NO. 13

Because man does not think by cerebration alone, no society or social order that is founded upon the commonly accepted basis of the origin of reason can be maintained without the employment of force. (Compulsion.)

The two fundamental laws that rule the destinies of all living things remain today as they were in the beginnings of time.

1. Get nourishment. 2. Reproduce your kind. Nourishment stored becomes property and demands protection. Protection of the less competent individual against the desires of the more competent means resistance. To live without compromise and arrangement; without a more thorough understanding of the originating causes of our acts and a willingness "to yield that strength may be"; without an understanding of the need for the "Noblesse oblige" principle on the part of the more competent, means always the rule of the "law of Claw and Fang."

"The good old-fashioned plan,
That he shall take who has the power,
And he shall keep who can."

And thus we come back to the philosophy of the "Golden Rule."

APHORISM NO. 14

Compulsion (force) as a means of maintenance of the social order is always destructive and its action upon cerebration, through disturbance of endocrino-cerebral balance, destroys its own object by increasing the error of balance; or in other words, by bringing discord into the harmonious functioning of the cerebrum and the endocrines.

Thus the vicious circle completes itself and we find ourselves where we started and without a solution of the problem, except that the law of "experience of the ages" still holds, and in its presence theorists, reformers, uplifters, derailed-menopausics and those who believe that they can make man good by making laws; if their endocrino-cerebral function were in harmonious attunement would cease their ill-considered maunderings, and perhaps retire like Tityrus to rest themselves "beneath the shade of some umbrageous beech," and leave the world to its solution of its problems by the slow process of the attrition of time and by the accumulation of experience.

CONCLUSION

If the aphorisms that I have promugated are indeed true, and therefore defendable, the time has come when the teacher of ethics and economics in any of its branches, must abandon his present notions based upon the idea that man is a thinking animal, acting upon the impulses that are the result of his cerebration alone, and accept the facts that are demonstrable in regard to the endocrinic origins of thought. Having done this it is for the philosophers of economics to generate and elaborate a new system of ethics and economics founded upon the facts and not upon theories that have been rendered nugatory by the advances in physiological science.

I cannot close my paper without calling the attention of those of my hearers who have not given the subject of the endocrines much attention, to the colossal work done by our own Sajous of Philadelphia; to that monument of experiment and inductive reasoning that has

come from the hands of Cushing of Boston, to the collection of clinical cases illustrated by Bainbridge of New York, and the summaries of the progress of endocrine investigation coming from the pen of Col. Fielding H. Garrison of Washington.

Socrates said that he knew nothing except the fact of his own ignorance. Perhaps I have exhibited my own, but I assure you that in this regard I am like Socrates, I am quite aware of it. I have proved nothing; I have not tried to; but I hope I have given some among you food for thought.

311 Prospect Ave.

A RATIONAL PROGRAM FOR THE PREVENTION OF THE POLLUTION OF OUR LAKES AND STREAMS.*

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CHICAGO

Each year, as there develops a greater tendency toward concentration in urban communities, the lakes and streams of the state become more and more obviously polluted by sewage and industrial wastes. They become in time totally unfit for any use whatever and they produce foul odors which render habitation near them almost impossible. They become wholly lost for pleasure purposes and the value of property along their banks is greatly depreciated. Water supplies drawn from polluted streams or lakes are unnecessarily endangered even although it be recognized that the water must be filtered and sterilized before delivery to the consumers.

There are a number of notable examples of gross waterway pollution in the State of Illinois, the most prominent of which is, of course, the extensive pollution of the Illinois river by the Sanitary District of Chicago. Other notable cases are the pollution of the Sangamon river by Decatur, the pollution of Sugar Creek by Bloomington, the pollution of the Fox river by a number of communities, principally Elgin and Aurora, the pollution of Boneyard Creek by Champaign and Urbana and the pollution of the Des Plaines river by a number of communities along its course.

In several of the cases here mentioned, programs have been worked out for the elimination of the pollution by the installation of adequate sewage-treatment works. Chicago must spend many millions of dollars for this purpose and even the relatively small town of Decatur must spend upwards of a million dollars.

Until recent years, waterway pollution has been permitted to go on more or less unchecked until riparian owners have been goaded by foul conditions and property losses to bring suit for the recovery of damages. It has been the custom of municipalities to fight such suits until it became evident that the cost of damages and the cost of litigation would exceed the cost of sewage-treatment works. It is obvious at once that this is a very wasteful process and that some better method of regulating the matter of waterway pollution must be devised.

In order to better state the requirements with reference to legal control over waterway pollution, it is desirable to give some consideration to the character of waterways and the effect of pollution. There are two extreme views on the functions of waterways. One is that a waterway should be regarded as a means for watering the country through which it flows or in which it lies. That is to say, its water should be available for any purpose for which water is ordinarily used without jeopardizing life or health. The other extreme point of view is that waterways should be regarded as drainage courses or receiving basins for removing the wastes from communities and that for this reason they can not be regarded as watering the country and that water supplies for domestic purposes must be derived from springs and wells.

Obviously both these extreme views are untenable. No waterway can be maintained in its pristine purity with the present density of population in the State of Illinois. On the other hand, streams must be used for water supplies, especially by large cities, because it is not always practicable (in fact, rarely practicable) to obtain a sufficient quantity of water from springs or wells.

The correct conception of the function of waterways is midway between these two extreme views, namely, that a waterway must be regarded as both draining and watering the territory through which it flows or to which it is contiguous. Some pollution of waterways is inevitable, nevertheless their pollution can be so

*Read before the Seventieth Annual Meeting of the Illinois State Medical Society, at Rockford, May 19, 1920.

regulated that none need be polluted to an objectionable degree. The development of the art of water purification by sanitary engineers has made it entirely practicable to purify the waters of surface streams and lakes so that even when dangerously polluted and turbid they may be rendered clear, colorless, and practically free from organic life, including bacteria. The exact balance that should exist between the function of sewage-treatment works on the one hand and water-purification works on the other hand, is something that can not readily be laid down by any exact rules. Some efforts have been made to quantitatively state a permissible amount of pollution that will not place too great a burden upon water-purification works, but none of these statements have thus far been generally accepted. In any event, the decision must rest upon a careful consideration of all the local factors.

The use of waterways as sources of domestic water supply is not the only consideration upon which may be predicated the degree of cleanliness that may properly be demanded with reference to them. Many streams in the State of Illinois, for example, are not used as sources of either public or private water supply and in all probability will not be so used at any time in the future. There is, however, another very important use to which streams may be placed, namely, for recreational purposes. Growing importance is attached to this use in recent years and every summer there may be found scattered along our most picturesque streams and lakes numerous camps and cottages. This form of summer vacation is comparatively cheap and a normally healthful means of recreation. Vacationing along our waterways, especially near the larger cities, should be regarded as one of the means of improving the health tone of our urban communities and to this end special consideration should be given to maintaining the cleanliness of streams within reach of the cities. The mere mention of this item will at once bring to view the utter neglect of many of our most beautiful streams. Not only are they befouled with sewage and industrial wastes, but their banks and the land in their proximity are rendered hideous by the practice of using stream banks as public dumps.

Under this head one may ask how high a degree of purity should be demanded in a stream which is extensively used for recreational purposes, but not necessarily for public water supply. While it may be recognized that streams not used for water supply and not used for recreational purposes need be kept in only that degree of cleanliness that will prevent them from becoming malodorous, unsightly and hence a public nuisance, in the case of streams available for or already extensively used for recreational purposes, a much higher degree of purity may be demanded. There should be no sensible evidence of pollution at any point and all sewage entering such streams should be sterilized so that there will be no great influx of infectious matter. Of course, a drinking water standard can not be maintained, but if a stream is to be used for boating, fishing and bathing the quality of the water should be up to the standard of that at our best bathing beaches along the lake shore and the ocean. To accomplish this, especially along the smaller streams, demands that sewage be treated in such manner that the final effluent will be clear and non-putrescible and as already indicated, a sterilizing agent should be added to practically eliminate any matter of an infectious character. As in the case of streams used for public supplies, no hard and fast rules can be established and, therefore, a decision as to what sewage treatment works are necessary in any given case must always be dependent upon a careful consideration of all local factors.

Another function of waterways to some extent allied with their use for recreational purposes is the propagation of fish life. In certain parts of the country this function would also include shellfish, which from the sanitary point of view, are far more important than fish, because shellfish are frequently eaten raw, whereas fish (at least in this part of the globe) are not so eaten. Some of the streams of Illinois are very valuable for their fish, notably the Illinois river, the fishing interests of which are said to be second only to the salmon fisheries on the Columbia river in the State of Washington.

The relation of waterway pollution to fish life is not generally understood. Pollution may both injure and promote fish life. If the pollution is so great that all but a small portion of the oxygen in the water is absorbed by the decomposition of the polluting matter, then the fish are killed by suffocation. Moreover, if the polluting matter is largely in the form of finely divided

slimy suspended matter, it tends to clog the gills of fish and injures them by the mechanical clogging of their respiratory organs. Natural turbidity is also injurious and prevents the existence of certain kinds of fish in muddy streams. Where the pollution is not so great as to produce the above objectionable results to fish life, the polluting matter or the various organisms that thrive on the polluting matter, constitute a valuable fish food which tends greatly to augment the fish yield. Both the injurious and beneficial effects to fish life are exemplified in the Illinois river. In the upper Illinois river the pollution has practically exterminated fish life, while in the lower Illinois river it has been on the increase. The danger, however, is that the pollution extending down stream continually, due to its increasing volume, more and more restricts the breeding grounds for fish. Another unfavorable influence on fish life of a polluted stream occurs in that zone of the stream which at times of low water is grossly polluted and at times of high water retains a sufficient oxygen content to support fish life. The fish, in their migration up stream, may get into this zone during high water and may there be overtaken by a suffocating condition incident to decreased flow and corresponding increase in the intensity of pollution. At such times, many thousands of fish are killed, float to the water's edge where they strand, putrefy and create exceedingly foul odors.

Streams should also be available for various industrial purposes. Ordinarily, industries do not require a water supply of a high degree of purity. The most severe demands in industries is primarily for a clear, colorless water free from objectionable mineral characteristics. Such waters may generally be obtained from streams and lakes after suitable filtration. The pollution that ordinarily enters waterways, excepting those which are grossly polluted, does not affect the water for industrial uses.

On the other hand, industrial wastes are becoming a greater and greater factor in stream pollution. Such wastes, as a rule, do not have the infectious character of city sewage; many, in fact, are virtually sterile when leaving the factory drains, but they contain organic matter, which soon undergoes putrefactive decomposition when not adequately diluted with clean water and may create foul odors, destroy fish life and render streams entirely unfit for recreational uses. Among the most important industries contributing to stream pollution in this state are corn products works, tanneries, slaughter houses, strawboard mills and paper mills. In the rural districts, especially along smaller streams, canneries and cheese factories produce very foul-smelling wastes which do not receive adequate dilution, especially in the summer time.

Having reviewed the functions of streams, the manner in which they are most frequently polluted and the evil results of such pollution, there may now be considered the matter of appropriate legislation directed at the protection of the streams of the State to the end that they may be cleaned or not become unduly contaminated. Present legislation in Illinois is unscientifically conceived, is not entirely clear as to what degree of cleanliness is to be maintained in our streams and is unwieldy and difficult of proper application. The general sentiment of the people of the State is fairly well reflected in the State Criminal Code, Chapter 38, paragraph 221, Section 3 of Hurd's Revised Statutes, which among other definitions, defines as a nuisance corruption or rendering unwholesome or impure the waters of any spring, river, pond or lake, to the injury or prejudice of others. The penalty on conviction for causing a nuisance under the State laws is a fine not exceeding $100 for the first offense and a like sum for subsequent offenses and not over three months confinement in the county jail. The nuisance may also be abated upon order of the court by the sheriff at the expense of the defendant and the law specifically states that it is no defense that a nuisance is maintained by virtue or permission of any state law.

In practice it has been found difficult to enforce this state law against municipalities and large corporations. Usually the affected parties are a number of riparian owners each of whom is damaged for relatively small amounts, yet the aggregate damage may be very large. They generally find great difficulty in getting together for the purpose of raising funds for bringing joint suits for abatement or damages. Moreover, it is necessary to keep up continuous litigation requiring repeated payment of damages before a municipality or corporation is forced into the situation where it is cheaper to build treatment works than to continue to fight damage suits.

The Civil Administrative Code adopted in 1917 gives the State Department of Public Health certain authority with reference to stream pollution, but in language that is not altogether clear and definite and which authority moreover conflicts with authority granted to the Waterways Division of the Department of Public Works and Buildings. This provision of the Civil Administrative Code gave to the Department of Public Health the power to "act in an advisory capacity relative to public water supplies, water-purification works, sewerage systems and sewage-treatment works and to exercise supervision over nuisances growing out of the operation of such water and sewage works and to make, promulgate and enforce rules and regulations relating to such nuisances." Under the old powers of the State Department of Public Health which provide that the ~~then~~ State Board of Health "shall have authority to make such rules and regulations and such sanitary investigations as it may from time to time deem necessary for the preservation and improvement of the public health." There were adopted rules and regulations which read as follows:

No municipality, district, corporation, company, institution, person, or persons, shall install or enter into contract for installing * * * sewers to serve more than 25 persons until complete plans and specifications fully describing such * * * sewers have been submitted to and received the written approval of the State Board of Health and thereafter such plans and specifications must be substantially adhered to unless diviations are submitted to and receive the written approval of the State Board of Health.

No municipality, district, corporation, company, institution, persons or person, shall make or enter into contract for making, alterations or changes in or additions to any existing sewage-treatment works serving more than 25 persons, until complete plans and specifications fully describing such alterations, changes or additions have been submitted to and received the written approval of the State Board of Health, and thereafter such plans and specifications must be substantially adhered to unless deviations are submitted to and receive the written approval of the State Board of Health.

These rules would seem to be more fully validated under the provisions of the Administrative Code.

The old Rivers and Lakes Commission Act gave that commission certain powers with reference to the abatement of stream pollution but the act was worded in an ambiguous way so that it was uncertain whether it had application to the destruction of fish life solely, or to other evil results from waterway pollution. The Legislature in 1919 amended the Rivers and Lakes Act then being administered by the Waterways Division of the Department of Public Works and Buildings so as to cover pollution by industrial wastes only, but clearly extended the authority of the Division to take cognizance of evil results other than destruction of fish life. This provision of the law reads as follows:

It shall be the duty of said Department of Public Works and Buildings, to see that all the streams and lakes of the State of Illinois, wherein the State of Illinois or any of its citizens has any rights or intercsts, are not polluted or defiled. It shall not be lawful for any person, persons, firm, or corporation to throw, discharge, dump, or deposit, or cause, suffer, or procure to be thrown, discharged, dumped, or deposited, any acids, industrial wastes, poisonous effluent or dyestuff, clay or other washings, or any refuse matter of any kind or description containing solids, substances or matter discoloring or otherwise polluting any navigable lake or river of this State, or lake or river connected with or the waters of which discharge into any navigable lake or river of this State; provided, however, that this shall not be interpreted to prevent the discharge of water flowing from streets and sewers or ordinary household sewage passing therefrom.

The original provision in that part of the Criminal Code relating to nuisances, intended to prevent waterway pollution expresses even today fairly clearly the will of the people of the State with reference to the maintenance of the cleanliness of its public waterways. That is to say, the public does not object to a degree of waterway pollution, provided such pollution is not "to the injury or prejudice of others." Perhaps this phraseology should be varied somewhat so as to express the recognition of the fact that all pollution, even though it may be somewhat to the injury or prejudice of others, can not be prevented. This is exemplified in the possible case of an individual who, or community which might wish to use the water from a stream for domestic purposes and regarded it as prejudicial if it became necessary to purify such water in order to render it safe. What really is wanted is clean waterways containing no pollution which will *unduly* jeopardize a *reasonable* use of our waterways by riparian owners or by the general public. The actual decision as to what constitutes a clean waterway or the undue jeopardy of the reasonable use of a waterway by riparian owners and

the general public should be determined by specially qualified persons in the employ of the State.

Many states have very wisely given their State Departments of Health exclusive authority over the maintenance of the purity of inland waterways usually under some law which gives the Department a degree of latitude in determining what constitutes the most economical and satisfactory solution in any given case (all pertinent factors being taken into consideration) and which further provides for hearings and references to referees in disputed cases. Perhaps the best of such laws is that in operation in the State of Ohio. The law is relatively simple, direct and workable. Furthermore, it has been sustained by the Supreme Court of the State as to its validity and constitutionality. In general terms, it provides that when the State Department of Public health finds upon investigation that a municipality, corporation, institution or individual is unduly polluting a stream, it may issue an order requiring the cessation of such pollution within a reasonable time and may authorize the issuance of bonds for the purpose. If the affected parties so desire, they may have a hearing which may or may not result in the modification of the Department's order. If the affected parties still feel that they are not receiving justice they may refer the matter to a referee commission of three sanitary engineers, one to be appointed by the State Department of Public Health, but not regularly employed by the Department, a second to be appointed by the affected parties and the third to be appointed by the two engineers appointed as above. The decision of this commission is to be regarded as binding and its expenses are to be defrayed equally by the State Department of Health and the parties affected.

It is not the intention of this paper to specifically prescribe a law applicable to the State of Illinois. This is obviously a matter for lawyers and lawmakers. However, it may be said from the technical point of view that the limitation of waterway pollution is most effectively and most equitably carried out when under the general supervision of some central expert authority operating under somewhat elastic general laws which represent in broad terms the will of the people.

39 W. Adams Street.

DISCUSSION

Mr. Langdon Pearse, Chicago, the sanitary engineer of the Sanitary District of Chicago, states that we have realized for a long time that the Illinois river was polluted, but at the same time it is a question of economics for the state to what extent it should be cleaned up. He believes there never will be a demand for drinking water from that river; that health officials wouldn't stand for it. He doubts whether it will ever be fit for bathing. It would be cheaper to give free baths than to try to make the whole river fit to bathe in. On the other hand, it can be kept reasonably clean from the standpoint of boating and made absolutely free from nuisance which does exist in certain local points, particularly behind dams.

At the present time the Sanitary District is entering upon a program for clearing up the river. This is the third step in the development of the district, the first being to construct the drainage canal and reverse the Chicago River, the second to divert the sewage from Lake Michigan along the water front of Cook County. The first two have been practically completed.

It is entirely practical to clean up a stream. The whole question comes down to what cost the community is willing to pay. In the Rock river here the pollution is slight, but the particular problem seems to be the transfer of such nuisance beyond the noses of the particular people who are affected. That is easily done by the construction of sewers. The next step is to remove the source of pollution and that is done by screens, mechanically or by settling basins. If further treatment is needed, we frequently use chemical precipitation. There is a development for the use of acid whereby you can precipitate a great deal of grease. There is a question yet whether that will be a commercial success. Then we come to other means of treatment which are available to make an effluent that fish can live in. We do that by biological means in the simplest form by sewage farms, a few of which still exist in this country and elsewhere, but in general by more intensive means, by putting the sewage, either after settling or before, on beds of clean sand, perhaps three feet deep or on beds of crushed stone five to ten feet deep. The sewage is sprinkled on the surface of the stone by nozzles.

The general trend of the whole sewage treatment work at the present I think is to get concentration of work with moderate costs. We haven't entirely succeeded as yet, but we do feel that there will be modifications in different processes that will bring the cost down very materially. We are carrying on experiments in Chicago. We are also working on industrial sewage. The industrial sewage field in Chicago alone is a very large one. The packing houses and the tanneries are carrying on work to determine how best to handle the waste from those trades.

It has been a lucky thing for this state that there have been, in general, water supplies available other than the streams, or the citizens would have been forced long ago to have spent a deal more money than has been spent, in cleaning up the streams and purifying their waters.

Dr. Weis, La Salle: Where we live, we are the unfortunate recipients of the sewage that comes down the Illinois river. Our water supply we must take indirectly from the river. We get our water from shallow wells and in the spring when the water is high, our wells are entirely covered by the Illinois river. This water is not fit to be used in any way. Of course, it is filtered through the ground, but when the water is high, it will get in the manholes up above. My chemist examines the water every day when the surface of the top of the wells are covered with the river water.

Within the last two or three years there are more complaints about the bad odor coming down the river than for ten or fifteen years prior. Is it because they are discharging more sewage down the river, or is it because it is not diluted as it should be? It is certainly great to hear that in the near future we can expect something different. God speed the day.

Mr. Ferguson, Springfield: The State Department of Health is constantly urging communities to install public water supplies and sewer systems. Statistics show that the installation of such improvements cause the abandonment of wells, insanitary privies and cesspools and brings about marked improvement in the public health. We endeavor, whenever a sewer system is to be installed, to make a field examination of the stream to ascertain the character of the stream, the nearness of dwellings to that stream, and the use of the land bordering the stream. That is important if cattle are pastured along the stream. With this information the department is able to intelligently review the plans for the proposed sewer system and the treatment plan. We endeavor to co-operate with community engineers and the city officials and make suggestions as to what form of treatment will be necessary to prevent objectionable pollution.

This has worked out quite well wherever the plans have been submitted to the department. Previous to this work, however, and the establishment of the division of engineers, many plants and many sewer systems have been installed where enough consideration was not given to the method of treatment. As a result, we have quite a number of streams highly polluted. There is no agency which has jurisdiction over the pollution of streams which can take active steps to have a polluted stream made clear. Sooner or later, some state agency or some agency must be given suitable jurisdiction over the question of stream pollution so that the stream may not be polluted and the streams that are now polluted may be corrected at a minimum expense. Possibly, this agency might well be the State Department of Health, which has already established laboratories for analyzing sewage and water and it also has a division of engineering to make the necessary field study.

Mr. Hansen (closing discussion): It is true that it is not always desirable to build works for the treatment of sewage or for the complete treatment of sewage on account of great costs, but in such cases it is usually presumed that the offending party or community will then be in a position to pay damages or acquire the necessary riparian rights so that nobody's interests are jeopardized.

Mr. Ferguson brought out a most interesting point, namely, what attitude shall the State Department of Health take with reference to stream pollution when it must at the same time recognize that the installation of sewerage systems is a very great factor in the preservation of public health. It is a more important matter with reference to public health than the prevention of stream pollution, and it is sometimes (this was my experience while engineer of the State Department of Public Health), desirable to permit a city to pollute a stream so long as the rights of riparian owners are not unduly jeopardized, but the community must recognize that when that stream becomes developed, or when it is so used that the rights of others are jeopardized, then the community must be prepared to do its share and clean up the stream by putting in proper sewage treatment works. That is, we take the view that a person may dump his garbage, or whatever it might be, out onto a vacant lot so long as nobody is injured by that practice, but he has no right to dump his garbage into his neighbor's yard simply because he finds that is a rather cheap way of handling his particular garbage problem.

EARLY DIAGNOSIS OF SYPHILIS*

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DIXON, ILL.

In view of the fact that there are between 6 and 10 million syphilitics in the United States we should begin to realize that in the problem of syphilis it is imperative to secure an earlier and more efficient diagnosis of the disease than is done at the present, and I may say in addition, a more generalized effective treatment. This should be the keynote of our endeavors. At the same time to make a diagnosis of syphilis is a serious affair and not one to be entered upon rashly. We should be quick to suspect syphilis and a step slower to diagnose syphilis. Because of its frequency, of the many diseases which it may imitate, of its complications and of its late serious consequences, it is one of the most important medical diseases which we have to combat.

Every field of medicine is directly invaded. No organ of the body is exempt. No disease merits the designation "contagious" more than syphilis. It is originally propagated only by actual contact. Notwithstanding its multiform and remarkable varied manifestations it remains throughout them all the same specific *affection,*

*Read before the seventieth annual meeting of the Illinois State Medical Society at Rockford, May 19, 1920.

due, as demonstrated, to an *infection* by a single organism. The unity of syphilis therefore can no longer be denied. From time to time many different organisms were described as the true causes of syphilis.

As our late Dr. Osler well remarked: "The story of the search for the cause of syphilis is a tale to make the judicious grieve." Lassar in 1905 stated: One hundred and twenty-five causes of syphilis have been established during the last 25 years. Not until March 3, 1905, when the protozoologist, Fritz Schaudin, and his confrere syphilologist, Erich Hoffman, demonstrated the presence of spirilla in a chancre. The publication of the first reports led to an immense amount of work, and the discovery was speedily verified from many sources. The organism was at first called "Spirochaeta pallida," but shortly afterwards upon a basis of morphologic characteristics it was changed to "Treponema pallidum," the latter name of which has been adopted by the International Committee on Nomenclature.

The appearance of the organism is that of a spirally wound wire, 4 to 14 millimeters in length, ¼ to ½ millimeter in width. While the particular narrow width renders it difficult to detect them, the regularity of the spires affords a marked distinction. No internal structure can be demonstrated; it is extremely motile and has considerable lateral flexibility. Only one form has been found.

Syphilis may be either congenital or acquired. Inasmuch as it is now generally believed that the child which suffers from "S" at birth is really infected in utero, so it is obvious that the expression "Hereditary S" must fall into disuse, and the term "Congenital S" is the correct one, and no father can give his unborn child syphilis, except by first giving the mother syphilis. To avoid much trouble we should remember congenital syphilis is caused by an infection with the same organism that is found in acquired "S." The majority of cases are acquired and 94 per cent have the initial lesion upon the genitalia, the infection being the result of sexual intercourse.

In the remaining 6 per cent the primary sore is situated upon some other portion of the skin or mucous membrane, termed extragenital chancre. In exceptional instances no chancre is seen. However, as a general rule close examination will reveal the presence of a lesion in an obscure location, as in the urethra or upon the cervix. At times, too, the initial lesion may be so small and insignificant as to escape notice. It should be distinguished from chancroid, herpes progenitalis, cancer and scabies. This sore is antedated by a period of incubation following the exposure and previous to the appearance of the chancre at the site of inoculation, which averages between 20 and 40 days, with a probable average of about 4 weeks. The sore is usually single, but may be multiple, size varying from that of a split pea to a beefy patch as large as the thumb nail.

Induration is the most striking characteristic of most "S" chancres, sometimes lacking, sometimes late in coming, at other times it is the first appearance of the sore. It has been customary to divide the course of syphilis into 4 stages; primary, secondary, tertiary and quaternary or parsyphilitic. Would it not be far better to consider as our excellent observers, including Geo. Henry Fox, has, that "S" has but two phases: early and late? The term parasyphilitic should be dropped entirely since it has been conclusively shown that the so-called parasyphilitic lesions are truly syphilitic.

For the correct diagnosis of syphilis we have at our command both clinical and laboratory methods. Unfortunately, there is a serious tendency to absolutely ignore the clinical diagnosis and to exploit the laboratory diagnosis, a tendency that is certainly a very dangerous one, for neither laboratory men or methods are infallible. When one considers the magnificent work that has been done by Johnathan, Hutchinson, Fournier and scores of the older syphilographers, it can readily be seen that the clinical side should never be entirely ignored.

In the clinical diagnosis the history of patient should always be taken carefully and physical examination made. The most valuable of the laboratory methods are the testing of blood serum for complement fixation, examination of spinal fluid, the luetin test, various Roentgen ray findings, and last and most important of all is the demonstration of the treponema pallidum in the lesions.

Our attention has been called by "Neisser" to the fact that the treponemata can be found in

various lymphatic structures by the time the chancre has manifested itself; occasionally before the chancre appears there may be marked systemic disturbances. But as a general rule during the period of incubation there is little, if any, general disturbance. So the definite diagnosis in the early stage, may I say, before the treponema has spread to the lymphatic system near the primary sore and before the serologic reaction is positive, is the *one* and *only time*, that taken advantage of, may lead to success, and it is the time for radical cure if such is possible. So it cannot be stated too emphatically that the diagnosis of "S" should be made at the very earliest possible moment. Every sore on the genitals or elsewhere is or should be open to suspicion of chancre and examined for treponemata. An indolent sore on the finger of a nurse, a dental surgeon or a physician is all too often the precursor of a systematic treponemata infection, and as time is a factor of paramount importance, the necessity for examination should be emphasized.

Now the causal organisms may be demonstrated in four different ways, first, by the dark field illuminator; second, by staining secretions from active lesions; third, by an india method, and lastly by staining the organisms in the lesions, but I shall make mention of only one which should totally displace all methods. I speak of the *"Dark Field Illuminator Test."* The Dark field illuminator is an attachment furnished for the microscope which is substituted for the condensor, and allows no rays of light to pass through the field except those that outline the delicate translucent spirilla forms of these parasites. The Dark field has several great advantages: in the vast majority of instances it will enable an absolute and early diagnosis of syphilis in a very few minutes. Again, this instrument affords much the best chance of showing the organisms, for if they are in the serum they cannot be missed by a trained observer. It must always be borne in mind that if a lesion has been treated with antiseptics so many of the treponema may have been killed that they cannot be demonstrated. In such instances give a thorough irrigation with normal saline, and apply wet dressings of same for 12 hours or more before examination *or* prevent patient from using local applications for a day or two and then reexamine. For a satisfactory examination it is necessary to have clear serum. Often the chancre is so tender that it cannot be squeezed hard enough to exude clear serum, so the surface of the lesion should be rubbed or teased slightly to permit of the escape of a little serum, without drawing blood. In very stubborn cases blood may be collected, allowed to clot and then clear serum used, *or* obtain material by puncture of the chancre. So the early diagnosis is made upon the history of exposure, period of incubation, clinical appearances and last and most important, the dark field test for treponema pallidum which, if demonstrated in secretion beyond question, is sufficient evidence of syphilis.

Constitutional treatment exercises controlling influence upon the chancre and should not be resorted to until a positive diagnosis is reached. May I also say that the Wassermann complement fixation test is not available until five or six weeks after the first appearance of the initial sore. Statistics from the late war have brought out the value of Wassermann tests in early diagnosis of relapses, as in most syphilitic infections which had apparently been cured, the first symptom of a relapse is the return to a positive Wassermann reaction and this may occur weeks and even months before marked clinical symptoms are noted. This is extremely interesting and we sure should profit by such findings. The physician who waits for secondary symptoms before beginning treatment, when it is possible for him to have a dark field examination made or the Wassermann test applied is criminally negligent in my opinion, for with these aids it is possible to diagnose correctly practically every syphilitic infection before the appearance of secondary symptoms.

So with syphilis an actual condition, it must be recognized early and treated early if its economic results are to be prevented. The importance of demonstrating the "treponema pallidum" in early syphilis, when the serum reaction is negative, a time when abortive treatment by neoarsphenanine and mercury, is most likely to be successful should be emphasized; if not, we lose the benefit of the one psychologic moment in the life history of syphilis when we can seize our real opportunity. Serum should, in all early cases, be properly obtained and given the dark field test. Thus our problem is early recognition and early

treatment and extension of facilities for early diagnosis and treatment.

As a professional body, let us be honest and acknowledge we have not spread the vital importance of early diagnosis. It has taken a world war to impress on us that the modern conceptions of syphilis have not been taught in our medical colleges. We have zealously striven to whitewash the episodes occurring in the wrecks due to this disease. We have had clinical characteristics and endless discussions as to secondaries and tertiaries and neurosyphilis, forgetting that we were proving our guilt in this very manner. And now we must scrap our clinical differences and turn to laboratory diagnosis and the finding of treponema pallidum. I do not mean here the serologic diagnosis, for then we are losing our great opportunity.

SARCOMA OF THE KIDNEY.*

JOSEPH WELFELD, M. D.
CHICAGO.

I desire to report a case of sarcoma of the kidney and follow same with a brief discussion of the subject. This case was under my observation about one week with diagnosis of sarcoma corroborated by Dr. L. E. Schmidt.

History. Female child, aged 2 years, Jewish, American born, resident of Chicago.

Family History: Mother died in 1917 from acute parenchymatous nephritis, complicated by multiple breast abscesses, requiring extensive incisions.

One brother died of septico-pyemia following apendectomy.

Two sisters, ages 6 and 17 years, living and well. Father well, living and in good health.

Personal history: Negative except that child was bottle-fed through entire infancy. Normal in growth and in weight for age.

Previous history: Whooping cough and measles simultaneously when child was year and a half old. No other diseases.

Complaint on admission: Rapidly losing weight during previous two weeks, no appetite, great exhaustion following exercise, sleeplessness. Father and others noticed child had a large abdomen, which seemed to daily increase in size.

Examination on admission: Weight, 28½ pounds. Child lies perfectly quiet except during examination, then cries. Responds readily to any question. Intelligent for age. Child walked about when permitted. Objective anemia.

Head: Pupils normal. Mouth and throat negative except for slightly enlarged tonsils (not pathological). Nose and ears negative.

Neck: Few posterior cervical glands on both sides.

Chest: Heart and lungs negative.

Abdomen: Varicose veins over entire abdomen (Caput Medusæ). Distinct mass visible in the left half of abdomen extending to the middle line and down as low as the brim of the pelvis. Mass was not movable on respiration or by manipulation. Several irregularities could be noted on the surface of the tumor, especially in the upper part. No extreme tenderness of the mass was noted. Peritoneal fluid present, which shifts with posture.

Extremities: Negative.

Reflexes: Negative, superficial and deep.

Blood examination: Hemoglobin, 70 per cent; leucocytes, 8400; coagulation time, normal.; smear, negative.

Urinalysis: Squamous epithelium and few white cells present. No albumin or casts. Blood microscopic.

Clinical course: Child in hospital for one week and showed no serious symptoms.

Operation: Abdominal route was chosen, tumor identified as kidney tumor and readily removed. Patient removed from operating room in one hour.

Post-operative history: Rapid, uneventful recovery, patient leaving hospital on 14th day. Intensive x-ray treatment given periodically every two weeks for two months following.

Sequelæ: Ninth month after the operation child developed gastro-intestinal disturbances, urinary suppression and temperature of 102 to 104. Pronounced cachexia. Examination at this time showed another large mass on the other side, similar to the mass that was removed. The reason this was not noted before was the disappearance of the patient from observation for approximately two months, the mass developing between the seventh and ninth month.

Symptomatic treatment was administered for the next two weeks.

Child died eleven months after the operation.

*Read before North Shore Branch Chicago Medical Society May, 1920.

Pathological report by Dr. Nadeau. The specimen is that of a large tumor of the kidney removed from a two-year-old child. The entire mass is 15 x 12 cm. in diameter; weighs 925 grams; is covered by a rather smooth capsule appearing membrane and is roughly lobulated.

The tumor consists of two definite masses, the smaller at the upper pole which is 5 x 7 cm. in diameter and consists of kidney tissue, and the other much larger mass in the lower pole 11 x 10 cm. in diameter.

There is a well-defined capsule about the tumor in the lower pole excepting at one point near the hilum of the kidney where the capsule is broken through by a papillomatous sanguinous and partially degenerated mass.

On cut section the tumor is found to be moderately soft, but at the same time giving definite resistance to the knife suggestive of fibrous tissue. The cut surface is pinkish-gray in color and there are seen gyrating whirls of white fibrous-like bands.

The kidney and tumor are definitely separated by a well-defined capsule.

Microscopic examination: The true renal tissue shows but few changes excepting that of moderate pressure atrophy. A section of the tumor reveals masses of mixed sized round cells in the spaces surrounded by a capsule-like formation of fibro-blasts. The round cells infiltrate all of the tissues and in some areas there is marked degeneration.

Pathological diagnosis: Round cell sarcoma of the inferior pole of the kidney.

Fig. 1. Kidney with Round Cell Sarcoma

The analysis of the case under discussion produces quite a few interesting points.

In former times it was believed and taught that sarcomata of the kidney occur only as metastatic formations. This statement originating with Virchow was accepted under the weight of his authority. Later on by the strength of evidence in numerous postmortems it was shown that sarcomata of the kidney quite frequently are primary neoplasms of this organ. According to the prevalence of these formations they were designated as spindle or round cell sarcomata. Microscopically the tumor mass presents itself on cross cuts as a medullary soft substance that protrudes readily out of the surface of the cut. Under the microscope it is seen that in these simple forms, as a rule, the immediate vicinity of the canaliculi uriniferi furnish the starting points of the neoplastic formation.

The renal parenchyma may remain intact and may be easily differentiated from the growth. In other cases we find a prevalence of vascular structures and, therefore, these tumors are called angiosarcomata.

These tumors form a connecting link with those sarcomata that originate in the endothelium of the blood vessels or lymphatics, the endotheliomata.

Occasionally the renal sarcomata appear as mixed tumors; one encounters besides the sarcomatous structure, cartilage, smooth and striped muscle fibres, lyosarcomata.

In certain sarcomata, acinous formations are to be observed, reminding one of carcinoma.

Myosarcomata and adenosarcomata are usually counted among the so-called embryonic glandular tumors of the kidney. In practically all these cases there is a strict differentiation of the renal parenchyma from the tumor mass.

This species of neoplasm is, as a rule, observed only in infants. They are characterized by rapid growth and develop quickly into enormous tumors.

In these rapid-growing tumors quite often foci of softening and the formation of cavities is observed, hemorrhages into these cavities are a common occurrence. On account of the retrogressive changes on the surface of these tumors perirenal attachments develop quite extensively.

The kidney that is the carrier of such a growth suffers in its function by compression, and in consequence the other kidney will soon develop a status of compensatory hyperemia and hypertrophy. If once the neoplasm ulcerates and per-

forates into the renal pelvis amyloid degeneration of the other kidney is a regular occurrence.

The symptomatology of these tumors is characterized by four leading points, the appearance of a swelling that is determined by visible changes in the formation of the flank and by palpation, by hematuria, by pains originating in the swelling and by deterioration of the general condition.

Visible changes in the contour of the flank become evident only when the tumor has reached a certain size, while the palpatory findings may be elicited even in tumors of moderate diameter; this palpation is easy in children and is facilitated in adults, if they are examined in a warm bath, which leads to relaxation of the muscular covering. Hematuria may occur occasionally only, or the urine may be constantly stained. Quite often hematuria will be observed, before it is possible to palpate any tumefaction.

Cachexia always develops in the final stages, or will appear early in rapidly growing tumors. Severe cachexia may be observed, though no metastases are to be found.

Pains, while almost a regular accompaniment of the tumors in adults, may be entirely absent and really are in the majority of cases in infants.

In the very large tumors additional symptoms may arise, due to the dislocation and compression of the adjacent organs. The heart action and the functions of the intestinal tract are quite often impaired to a distressing degree. Interference with the deep circulation leads to the development of numerous large veins running through the skin covering the region of the tumor.

As far as the therapy is concerned, the operative removal of these tumors seems to be the only rational way of disposing of them, provided there are no serious contra-indications against any surgical interference. As such may be mentioned very advanced cachexia or the evidence of metastases in other organs.

The mere size of the tumor is no positive contraindication, because tumors of enormous dimensions were successfully operated on.

In order to attempt to prevent or at least retard recurrences post-operative radiotherapy of an intense character has to be instituted very soon after operation.

It may be considered, however, whether it would not be of advantage to use therapeutic rays for some time previous to the surgical interference. It is a matter of experience that sarcomata are, as a rule, more amenable to the therapeutic influence of rays than other tumors and it may also be possible to destroy stray tumor elements before operation. Finally there are cases on record in which radiotherapy administered previously to the operation succeeded in considerably diminishing the size of the tumor, thus facilitating the eventual operative removal of the growth.

A PLEA FOR THE EARLY RECOGNITION OF RENAL TUBERCULOSIS.*

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I have had occasion[1] during the last six years to discuss the subject of renal tuberculosis in all of its phases.

Personal contact with a relatively large number of cases since my first paper was written has impressed me with the necessity of removal of the first involved kidney at a comparatively early stage if we wish to improve our percentage of complete recoveries.

The latter has already reached 60 to 75 per cent., according to various statistics (see table), but I fail to see any reason why this relatively high percentage cannot be still further increased if the diagnosis is made at an earlier period in the development of the disease.

Author—	Number of Cases	Early Mortality	Late Mortality	Percentage of Recoveries	Percentage of Recoveries (Incomplete)
Legueu[2]	1,539	5.9%	15.4%	...	...
Israel[2]	1,023	12.9%	14.2%	63.8	9.1
Kummell[2]	106	4.0%	29.0%	65.7	...
Zuckerkandl[2]	104	7.7%	13.0%	...	...
Wildbolz[2]	139	2.8%	14.0%	59.0	...
Braasch[2]	435	13.2%	10.8%	60.0	20.0
Suter	60	1.6%	6.6%	56.0	...
Lower and Shupe	45	.....	.....	60.0	...
Crabtree and Cabot	79 (103 cases)	3.8%	.....	...	...

1. Interst. Med. J. XX, 299, 1913; Idem. XXI, 764, 1914; J. Okla. ed. Assn., XI, 114 and 150, 1918; Ill. Med. J., XXXIV, 71, 1918; Surg. Clin., Chicago, IV, 401, 1920.

2. The statistics of Legueu and Israel are collective, i.e., from a number of different authors. The statistics of Braasch are based upon 435 cases operated at the Mayo Clinic (see Am. J. Med. Sci., 149, 8, Jan., 1919). The statistics of Lower and Shupe are from 45 cases which could be followed up and had been operated by Crile, Bunts and Lower. The statistics of Crabtree and Cabot are based upon 70 cases which could be followed up, operated since 1912 at the Massachusetts General Hospital. The statistics of Kummell, Zuckerkandl, Wildbolz and Suter are based upon their personal cases.

The operative mortality is so low that it is a

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practically negligible factor. By early mortality is generally understood the deaths which occur within the first year after operation. Under the head of late mortality are included all deaths occurring after the first year.

The most frequent causes of the early mortality are pulmonary tuberculosis and an involvement (tuberculous) of the opposite kidney. A chronic or healed form of pulmonary tuberculosis is a quite common complication of renal tuberculosis as Braasch has shown. It does not have an unfavorable influence on the prognosis, whereas an active process does. No doubt the majority of cases of death due to pulmonary tuberculosis following nephrectomy are due to the lighting up of some latent focus. The most common causes of the late mortality are pulmonary tuberculosis and tuberculous and nontuberculous disease of the opposite kidney.

By complete recoveries we understand a disappearance of all urinary symptoms, and absence of tubercle bacilli in the urine and a practically normal appearance of the bladder mucosa. Incomplete recovery is the term applied to those cases in which there is a persistence of vesical symptoms with or without the presence of tubercle bacilli. Some of the cases of incomplete recovery present tuberculous lesions in the epididymis, prostate and seminal vesicles. No doubt in many of these cases there were coincident foci in the kidney and epididymis. I have recently directed attention to the necessity of routine[1] examination of the genitalia in the male in cases of renal tuberculosis. Braasch in his recent paper[2] found that tuberculosis of the genitalia was present in 73 per cent. of 234 male patients. He also found that the mortality was twice as great when the bladder was involved to an advanced degree as when only a moderate involvement was present. In a similar manner the mortality in the cases where there was an extensive involvement of the kidney was far greater than in the early stages, with only slight lesions.

The presence of bone or glandular foci have little or no bearing on the prognosis. We thus see that it is possible to reduce both the immediate and late mortality and to increase the percentage of cases of complete recovery by making an early diagnosis with removal of the affected kidney. The latter procedure offers a far greater percentage of permanent recovery than nonoperative treatment. The largest statistics in regard to the possibility of recovery by following a nonoperative method of treatment are those of Wildbolz. He directed an inquiry amongst the physicians of Switzerland and found that of 316 patients not operated upon 31.3 per cent died within the first two years of the disease, 27.2 per cent within three to five years. More than half of the patients—58 per cent—died within the first five years, and only 20 per cent were alive after five years. When we compare these statistics with those shown in the table approximating recovery in 80 per cent and complete cure in about 60 per cent, one must grant the great advantage of *operative over nonoperative treatment.* There is no authentic case on record of a complete recovery as a result of medical treatment. The condition known as autonephrectomy in which the entire kidney tissue has been destroyed is not a cure. The presence of such a kidney is a menace because of the dangers of miliary tuberculosis and of a toxic action on the opposite kidney. It is true that periods of complete amelioration of symptoms occur from time to time in renal tuberculosis and are very deceptive. Even in the occluded form one scarcely finds any bladder changes, thus leading one to believe that the patient has fully recovered. There are no subjective symptoms which are characteristic of renal tuberculosis. Even the objective findings so closely resemble those of other bladder and renal conditions that a diagnosis in the early stages is only possible if a complete urological study of the case has been made. The suspicion of the practitioner as to the possibility of renal tuberculosis being the underlying cause of obscure symptoms referable to the urinary tract, should always be aroused when a cystitis does not improve under the treatment usually given for that condition or when it is made worse by irrigation, etc. The clinical pictures under which renal tuberculosis presents itself vary greatly. In the majority of cases the symptoms of a cystitis predominate. An increased desire to urinate, at first nocturnal, then diurnal, is soon accompanied by pain during the act of urination and by the passage of blood especially toward the end of the act. In a second group a dull, aching pain over the affected kidney or

1. Surgical Clinics of Chicago, 1920, IV, 401.
2. Am. J. Med. Sci., CLIX, 8, Jan., 1920.

the occurrence of colics due to the passage of caseous debris or of blood clots stand out most prominently. In a third group more or less hematuria ushers in the clinical manifestations of the disease. In a fourth group symptoms such as one usually ascribes to a nontuberculous affection of the kidney appear. Chills, fever and pain over the affected kidney are the most striking features and many of the cases are mistaken for an ordinary pyrogenic infection. In a fifth class are included the so-called silent cases. The chief symptoms are a loss in weight and strength accompanied at times by an enlargement of the affected kidney. I think you will grant that there is nothing specific about any of these clinical pictures under which tuberculosis appears, hence we have become dependent upon the more exact methods of diagnosis of diseases of the urinary tract upon which modern urology is founded, viz.: cystoscopy, ureteral catheterization, radiography and pyelography aided by the microscopic and bacteriologic study of the urine obtained from each kidney. In the early period unless the infection is a very virulent one the cystoscopic picture does not differ greatly from that of a nontuberculous infection. The ureteral orifice is red and edematous just as it is in a pyogenic infection and it is only by bearing in mind that a renal tuberculosis may masquerade under the clinical picture of a nontuberculous infection that an early diagnosis can be made. I desire to emphasize the necessity of staining the sediment obtained by ureteral catheterization for tubercule bacilli in every case of renal infection which does not clear up when all contributory causes such as strictures, calculi, etc., have been eliminated. I have found the Crabtree method very successful and much more dependable than guinea pig tests. In some cases the presence of a rigid, gaping ureteral orifice should lead to the suspicion of a unilateral renal tuberculosis, especially when there is evidence of a localized systitis confined to the vicinity of this ureteral orifice or the corresponding half of the bladder. In the slightly more advanced cases the diagnosis is rendered far easier through the presence of small, grayish nodules surrounded by an inflammatory zone or minute ulcers due to the breaking down of these nodules or tubercles. These tubercles and ulcers are often arranged in groups around the ureteral orifice with normal mucous membrane between. I have found not infrequently that ulcerations are to be seen at the vertex of the bladder at a comparatively early stage and hence we do not fail to inspect this area as a matter of routine. There is absolutely no danger in catheterizing the ureter of the nontuberculous kidney. The urine which has been obtained from both sides should be centrifugalized for two hours in a high power biological centrifuge and the sediment carefully stained and examined for both pyogenic organisms and tubercle bacilli (Crabtree method).

The bladder changes in advanced cases present no difficulty in recognition to the experienced observer. The occurrence of extensive ulcerations and areas of granulation tissue are familiar to all. Radiography of the kidney has been of considerable assistance in the recognition of the more advanced cases and the same is true of pyelography, but one cannot hope to reduce either the mortality or the percentage of incomplete recoveries if we wait until these advanced changes are found. The object of the present paper is to make a plea for the careful urologic study of every case of obstinate bladder or renal infection in the hope that many cases will be recognized at period in the disease when complete recovery is possible.

DISCUSSION

Dr. Lespinasse (Chicago): The subject of diagnosis of tuberculosis of the kidney is one that is of importance to the individual only in the early stages. In the early stage, it is hard to diagnose, and there are a few points, one point in particular, that Dr. Eisendrath did not mention that will help us to make this diagnosis. Obviously, we can't run all our patients that come to us for slight urinary irritability through all the necessary examinations, but we can do this—the vast majority of the simple tuberculosis of the kidney will have sterile urine other than the tubercule bacillus. The types of cases that he showed there complicated by cocci and pyogenic organisms are relatively rare, so that if you have a patient whose urinary examination is negative, cystoscopic examination of the bladder shows nothing, maybe slightly reddened trigone—if you culture that urine and obtain growths, the chances are that that is not a tuberculosis. If you obtain no growth, the chances are that it is, and that case particularly should be subjected to all of the modern time-consuming and technical examinations to work out the diagnosis as he has shown.

When your result is negative or doubtful, then you must wait for your miscroscopic examination of your urine. If that is negative, then the last point, and to my mind one of the very important points, is the infection or inocculation of the guinea pig. That will

often succeed when your microscopic examination for tubercule bacilli does not succeed. But the chief point in the diagnosis, as he said, is that you must suspect tuberculosis. We never diagnose a case unless we are thinking about the disease, and tuberculosis of the kidney is one of the commonest of urinary conditions, and it is also one of the most occult and obscure in early stages when medical measures have considerable value.

A NEGLECTED FORM OF CERVICAL ENDOMETRITIS.*

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The diagnosis and treatment of chronic endometritis as it affects the middle and lower portions of the cervix have been well described in our literature. But the same can hardly be said of inflammation at or contiguous to the internal os. Dilation, eversion, erosion and cystic degeneration do not take place at the upper the same as at the lower end of the cervix. The internal os dilates only slightly, its lumen is crowded with swollen and obstructed glands and the circulation is interfered with at first by the pressure from within, and later from without, by a contracting band of inflammatory exudate. On account of such interference resolution does not take place to the same extent as below and a ring of imperfectly organized connective tissue remains whose upper edge is at or just above the os and whose lower edge merges into the somewhat thickened mucous membrane below it. In multiparae this band or constriction ring does not necessarily interfere with uterine drainage, but in nulliparae it usually takes on some of the characteristics of stenosis. The presence of this constriction ring is ordinarily overlooked by the practitioner who thinks in terms of tampons and sometimes by the gynecologist whose scientific lenses are focused for operations. The reason is that neither one is looking for it, and do not avail themselves of an intelligent use of the uterine sound. When the sound passes through the ring without resistance the condition is not suspected; when it encounters resistance the difficulty is attributed to faulty development or anteflexion, and the dilatation intended for the relief of the supposed defect sometimes relieves most of the symptoms for a short time and the patient is pronounced cured of what she did not have. But the symptoms either return in a short time or the original condition persists in a slightly ameliorated form.

The diagnosis, made by means of the sound, is confirmed by the results of the treatment, viz., by the disappearance of the physical signs, and the relief of subjective symptoms such as backache, headache, reflex stomach disturbances, malaise, dysmenorrhea, menorrhagia, intermenstrual pain and sterility. The number and severity of the symptoms vary greatly in different cases, depending in part upon the interference with the patency of the lumen, the chronicity and the associated pelvic conditions, and partly upon the patient's general resisting powers and nervous habits. Some patients do not complain of many symptoms, yet I think that chronic inflammation in this location produces more subjective symptoms than in any other part of the uterus. Its symptoms are often attributed to a corporeal endometritis when such does not exist.

In all cases of chronic cervical endometritis or supposed corporeal endometritis, we should search for induration about the internal os. The first and most noticeable sign in all but the most chronic cases is pain produced by a slight pressure of the sound. When the os is anatomically small or is flattened by flexion, the pressure is not painful until it causes some dilatation or straitening, or at least until firm pressure is made. When the sound is passed through the inflammatory constriction with slight pressure its withdrawal is followed by a show of blood at the external os or by a stain of blood on the sound. In stenosis or under-development not due to or connected with inflammation it requires not only firm pressure but some forcible dilatation to produce a show of blood. That the tenderness is primarily at the internal os and not due to a general intra-uterine tenderness is known by the cessation of the pain almost as soon as the bulbous end of the sound has passed the internal os, even though the sound be manipulated so as to impinge gently against the uterine walls above. When the constriction ring is so large that it does not interfere with the passage of the sound, a little gentle manipulation can be made to locate the tender area at the internal os. The constriction ring seldom produces an abrupt and decided projection on the surface and the sound may merely feel as if it slipped over the edge of the thickened mucous membrane into the somewhat

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more spacious uterine cavity above. When the ordinary uterine sound thus passes without encountering resistance, a series of graded sounds that taper slightly at the end are required both for diagnosis and treatment. In passing such a sound large enough to dilate slightly we produce the diagnostic pain and show of blood already mentioned. In very chronic cases moderate pressure may not produce the show of blood, but in its place a lump of inspissated mucus, expressed from the glands, may be found adherent to the sound.

The ring of exudate can, in some cases, be traced by the uterine sound around the entire circumference; in others a part of the circumference will have no ridge, but be flat, smooth and of a cicatricial hardness, indicating a partial or complete local destruction of the mucosa. I have recently had a case of bilateral deep laceration of the cervix in which by separating the labia I could see the smooth red, cicatricial flat surface posteriorly and the elevated ridge anteriorly. Both had been already recognized by means of the sound. The lateral lacerations were quite deep and I suppose that the flat cicatricial surface represented the site of one or more superficial lacerations at the internal os which had not united.

In two of my cases the slight dilatation produced by the passage of the uterine sound caused the patients to faint when they got off the examining table. In several cases the patients have turned pale and dizzy, and have had to lie down or take a drink of ice water or go to an open window to avoid syncope. This would probably have occurred oftener, but for the fact that many of them remained on the examining table long enough for the effect of the local irritation produced by the examination to wear off. This symptom, I believe, is produced more often in cases with old well-organized exudates. I have known painful dilation of a small comparatively healthy cervix to cause nausea and a feeling of faintness, but it came on during dilatation, and passed off quickly and never caused the patient to feel like fainting after she stood up. It has occurred to me that the occasional cures of vomiting in pregnancy by dilatation of the cervix that have been reported, might have been in cases in which such an exudate at the internal os had kept up a reflex irritation.

The treatment calls first of all for dilatation. Stimulating applications before any dilatation has been effected are not always borne well and sometimes aggravate the condition. My experience has led me to prefer gradual progressive dilatation to extreme divulsion at one sitting. The latter is apt to produce one or more lacerations that extend through the constriction ring so that farther dilatation separates the lacerated edges of the ring without having much effect upon the exudate. Subsequent contraction takes place, requiring one or more subsequent divulsions, unless it is kept from contracting by the periodic passage of sounds the same as for progressive dilatation. The repeated mild stimulation of progressive dilatation with graded round dilators not only causes a steady improvement, but it more often cures the sterility which is the result of the inflammatory exudate rather than of mechanical obstruction.

When the patient cannot or will not stand the pain of progressive dilatation, I make the first one or two under the influence of nitrous oxide gas. However, I do not carry these dilatations far enough to cause lacerations and depend as much as possible upon the subsequent *periodic use* of the round dilators. A very slight increase in the amount of dilation at each sitting is all that is necessary. I dilate twice a week in such cases; once a week in those who can endure more at a time.

Before dilating, I swab out the vaginal vaults and cervix thoroughly with a 5 per cent solution of phenol; afterwards I apply a 20 per cent solution of phenol in glycerine to the entire uterine cavity. When a round dilator equal in size to a No. 25 urethral dilator, French scale, can be passed without causing a show of blood or producing much pain I apply a stimulating solution of iodized phenol to the entire cervical cavity and dilate twice a month for a few times and then once a month until I am satisfied that the parts are in a fairly healthy condition. In cases with a large lumen I use the same treatment except that I begin and end with larger dilators.

I think that the occasional failure of an Emmet or Schroeder trachelorrhaphy to relieve symptoms is often due to the presence of this constriction ring about the internal os. The dilatation which is often done as a preliminary step for the purpose of uterine treatment or disinfection may

afford temporary relief, but some of the symptoms usually return and may make the trachelorrhaphy seem a failure to the patient. In the first few cases of returning symptoms after trachelorrhaphy that came to my notice I supposed that the external os had been closed up too tight. But the external os must usually be very small and unusually rigid before it will give rise to subjective symptoms of any importance.

I am inclined to believe that the infections due to the use of dilating tents have usually been partly due to laceration of this constriction ring. I also believe that there is great danger of starting an infection by office dilatations unless facilities for disinfection and an aseptic technic are available, and are faithfully carried out; the more so if the abrasions or minute lacerations of the mucosa are not given time for repair between treatments. When the dilatations produce a considerable show of blood I usually wait a week for the abrasions or superficial lacerations to heal, although they can safely be made every three or four days if dilatations are slight and a perfect antiseptic and aseptic technic is carried out.

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THE INFLUENCE OF THE MIND UPON THE BODY: ITS LIMITATIONS AND MODUS OPERANDI.*

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To those who have hitherto written on the important problem of "The Influence of the Mind Upon the Body," I wish here to pay my tribute. But no attempt will be made to review the literature of this subject because much of it is so confusing and the discussion of the individual views of the different students would lead us so far astray that you would have neither the time nor the patience to listen to my own final conclusions or views.

I shall proceed forthwith, therefore, with my presentation of the subject chosen for discussion.

CLASSIFICATION OF ACTIVITIES IN THE HUMAN ORGANISM

For the purposes of this paper, the levels or types of activity found in the human organism may be conveniently classified as given below, in descending order so far as their lateness of appearance or of acquirement in evolution (ontogeny) and development (phylogeny) is concerned. (See chart.)

1. *Highest* of all we have *consciousness* or *awareness.* Consciousness may be (a) active, critical, selective, or (b) passive, uncritical, onlooking. It may have as its object or within its focus any of the following phenomena: an idea, an image, a sensation, a perception, an hallucination, an emotion, locomotor bodily activities, or vegetative bodily activities (see later).

2. Next below in the scale or series come *ideas,* under which term, in the remainder of this paper, we shall include images.

3. *Emotions* find their place below this, but, as will be explained later, no really new type of activity is present.

4. *Spontaneous,* ordinarily called *voluntary motor activity,* comes next. This last mentioned group comprises such movements as those of the extremities, the trunk, the head and neck, the face, the tongue, swallowing, speech, etc. This is variously termed the voluntary, locomotor or projicient system. In addition to the motor aspect of this system one must consider the sensory portion, which we may classify separately as

5. *Sensation,* ordinary or special. Here are gathered together such sensations as heat, cold, touch, pressure, pain and the like, as well as vision, taste, smell and hearing.

6. *Vegetative,* ordinarily called *visceral activities,* make up the sixth group. This refers to the functioning of the viscera or internal, vital organs or systems, such as the cardiovascular-renal system, the alimentary system, and the rest. Of the activity of these we are unconscious or unaware in ordinary, daily, healthy life. It is especially when these systems function excessively or faultily—that is, when the normal activity is disturbed — that we become conscious or aware of their presence. These organs are supplied by the vagus or sympathetic nervous systems, often called the *vegetative, autonomic* or *involuntary* system. In this pigeon-hole we also include glandular activities, not excepting those of the ductless glands, although they themselves are but producers of specific chemical substances which are responsible for activities which rightfully belong to the next group—chemical activities.

7. *Chemical* or *metabolic activities* hold the lowest, but by no means the least important, rung

*Presented before the Jackson Park Branch of the Chicago Medical Society, April 15, 1920.

in the ladder. These chemical changes take place under the name of metabolism, with its two phases, anabolism and katabolism. These activities take place in the individual systems, organs, structures, tissues and cells as a part of the life processes.

Use of terms "Mind" and "Body" as employed in this paper. As used in this paper the term "mind" shall refer to the first two groups—"consciousness" and "ideas," and partly to the third group—"emotions"; for, in the latter, we have combined together activities of the "mind" and of the "body" as these terms are used in this paper and as will be explained below.

By the term "body" I shall refer to the last four groups — spontaneous, sensory, vegetative and chemical activities, and in part also to "emotions" in which both "mental" and "bodily" activities are joined.

CHART

Mind { 1. Consciousness (a) Active, critical (b) Passive, uncritical; 2. Ideas } Emotions { Efferent { 1. Voluntary Motor System Locomotor, spontaneous, projicient; 2. Involuntary System Vegetative, visceral, autonomic; 3. Chemical system Metabolic } Body; Afferent { 4. Sensory System (a) General (b) Special } Body }

Explanation: Under "MIND" include "CONSCIOUSN ESS" and "IDEAS." Under "BODY" include "VOLUNTARY MOTOR," "INVOLUNTARY," "CHEMICAL," and "SENS ORY"" activities. In so-called "EMOTIONS" we have activities at all levels.

Influence of consciousness. The activities of the first group, or the influence of consciousness or awareness, whether active (critical, selective) or passive (uncritical, onlooking), I shall dismiss at once with the simple statement that its possible influence upon the body cannot be greater than and, in fact, depends upon the power or influence of ideas and emotions, for even in its most active form it can but exert its influence in controlling, guiding or directing, in varying degree, ideas or emotions.

We are free, then, to discuss the power of ideas and emotions over bodily (spontaneous, sensory, vegetative and chemical) processes or activities.

The influence is immediate or remote. The possibilities of remote influence. In speaking of the influence of the mind upon the body we must differentiate between (a) *immediate* and (b) *remote* influence or control.

We may agree at once that the remote influence of the mind upon the body is unlimited, and changes of the most pronounced, profound and complicated sort may be produced at every level of the human organism, from consciousness to chemical activities. For example, irregular habits or overwork due to vaulting, excessive or uncontrolled ambition, or to unhygienic living may lead to most profound bodily changes of all sorts. One's habitual facial expression ultimately depends, in some measure, upon the habitual or most common thoughts and emotions of one's daily life. Worry may lead to insomnia with its dire results—headache, dizziness, asthenia, poor appetite, loss of weight, tremors, alimentary, cardiovascular-renal symptoms, etc. Neglect of oral hygiene may lead to arthritis, which in such cases is due remotely to a habit, which is dependent upon training, imitation, suggestion, ideas. For this reason, the healthy or unhealthy condition of the separate cells, tissues, structures, organs and systems, in fact, of the entire organism, may be dependent upon or due to the personal hygiene and behavior which latter, after all, are but the result of training and education which, in turn, can be reduced to instincts, emotions and ideas.

We shall grant, at once, that this circuitous, remote influence exists, and shall now dismiss this aspect of the problem from our presentation, which now reduces itself to the *immediate* influence of the mind (ideas and the "mental" part of emotions) upon the body (spontaneous, sensory, vegetative and chemical activities).

By psychotherapy, whether in the guise of faith cures or otherwise, some or all of the symptoms produced remotely or circuitously by ideas, habits, training, etc., may be alleviated, cured or prevented, in varying degree, dependent upon the particular case. This can be effected by re-education and the reformation of personal habits and hygiene.

Bodily changes during the act of thinking. The ideational or thinking process or act, a cortical affair, must be differentiated from the idea *per se*. Ideational activity is accompanied by bodily

activities of all sorts for, during thinking, a form of energy-expenditure or work, we assume and maintain certain definite bodily attitudes with simultaneous, accommodative changes in the supporting activities or functioning of the locomotor, sensory, vegetative and chemical systems.

The immediate power of ideas per se. I shall now consider the *immediate* influence of ordinary, simple, pure ideas upon the body. By the use of ideas in the form of imagination, dreams, hypnosis, suggestion, delusion, simulation, exaggeration, and the like, how far can one directly control, influence, induce or affect the bodily activities? This will tell us the immediate power of what is variously termed the will, will power, volition, etc. It will tell us the limitations, in so far as the *immediate* control of bodily activities is concerned, of the faith cures, the healing cults, and all forms of psychotherapy, scientific or unscientific, legitimate or illegitimate, medical (professional) or extra-medical (extra-professional).

Even after excluding the *remote* and confining our presentation to the *immediate* influence of ideas over bodily processes, we must distinguish between what we will call (a) *immediate, direct* and (b) *immediate, indirect* influence. An example of the direct power of an idea is the movement of any portion of an extremity. An example of indirect influence is the circulatory and other changes which accompany, support, supplement, are secondary to, depend upon and follow such voluntary acts of the locomotor system as lying down, sitting, standing, walking, running, talking.

Elsewhere I[1] have presented my conclusions in this matter. I can briefly summarize the extent and limitations of the immediate power, direct and indirect, of ideas over bodily states (activities), in numerical order, as follows:

1. Even in the limited group mentioned below, the *immediate, direct, transient* power of ideas over the locomotor, voluntary or projicient system, with its spontaneous movements, is decidedly limited, for, ".....the idea of a movement (or of any response whatever) is, in and of itself, unable to produce it," since "..... an idea does not tend to provoke the act which it *is an idea of*, but only that which it *connects with as a result of the laws of instinct, exercise and effect.*"[2] In this way past experience, habit formation and training play a predominant and determinant part, as in mechanical work, surgery, and related, similar activities.

2. Ideas can *immediately* and *directly* lead to *transient* functioning of the voluntary nervous system or what we have called the locomotor or projicient system. This occurs in ordinary voluntary activity which is, as a rule, performed more or less consciously and purposively, is transient in nature, and immediately and directly produces activity of the so-called voluntary or locomotor system.

3. The involuntary or vegetative system can be affected *only indirectly* as the result of ideas—by the intervention of the emotions or by changes which accompany the reaction in the locomotor system; for instance, when walking or talking, or moving the arm or leg, there are cardiovascular and other changes occurring as secondary, adaptive reactions. Salivary and gastric secretion of supposedly "psychic" origin may be exceptions to the rule (Pawlow, Cannon, Carlson and others). But this law seems to hold free for all other visceral activities.

4. Ideas cannot evoke, in *direct* manner, sensory phenomena. No sensation or percept can be directly recalled by the power of ideas, memory, will power, thinking, imagination, hypnosis, suggestion, delusion. Hallucinations are never produced in this fashion for, like percepts, they are always of peripheral origin. This means that by ideas we cannot reproduce or re-experience feelings or sensations of warmth, coldness, touch, pain, pressure, etc. Nor can we voluntarily resurrect by imagination, the taste or smell or sound or color, previously experienced. It is especially important to remember that pain, a form of sensation, is never and can never be imaginary or subjectively, ideationally induced. *Pains are always of peripheral origin, but centrally appreciated.*[3] *There are no so-called subjective pains.*[3]

5. By ideas leading to distraction of attention one may inhibit or repress the degree of consciousness or awareness of sensations of all sorts—warmth, coldness, pain, touch, pressure and the rest.

6. Ideas, will power or whatever you prefer to call it, cannot lead, *immediately and directly*, to disorders of the locomotor or voluntary sys-

tem, *of a prolonged and continuous nature,* of the sort seen in what has been called and still is described by most writers and clinicians as "post-traumatic hysteria."[4] This dogmatic statement, I know, is in opposition to views held by the foremost neurologists here and abroad, and described for years past and more recently in the great World War just come to an end (so-called shell shock or war neurosis of so-called hysterical type).

7. In the case of organic paralyses, the influence of ideas, will power, volition, wishes or desires, cannot directly lead to functioning of the individual voluntary muscles or muscle groups which have been organically paralyzed, but such influence is limited to the muscle power still present in the partially paralyzed muscles, but not developed to its utmost degree, and to the prevention of atrophy from disuse in the paralyzed parts. Whatever power still exists in the partially paralyzed muscles may be developed to its greatest possibility by training, exercise and various physical measures.

8. There is no possible ideational control, *immediately and directly,* over the involuntary muscles of the internal organs. There can be no immediate and direct voluntary control or modification, for instance, of the heart's action or rate. It is true that through the intervention of ideas the heart's rate may be modified immediately, but only indirectly, by adopting, it may be unawares, perhaps for a very brief period, certain attitudes or postures, which involve the voluntary, locomotor or projicient system first, as in ordinary voluntary activity and in the emotions, only to be accompanied *instanter* by certain changes of the involuntary or vegetative system—respiration, heart action, circulation, etc.

9. Ideas cannot *immediately and directly, transiently or permanently,* affect peripheral processes, sensory, secretory or motor, wholly under the domination of the involuntary (vegetative and chemical) systems.

10. Ideas can lead, *immediately, but only indirectly,* to *transient* functioning of the vegetative and chemical systems by first producing activity of the locomotor system, which is accompanied by simultaneous, adaptive changes or activities in the vegetative and chemical (involuntary) systems, or by first exciting the emotions (which amounts to the same thing, as will be explained later, when the emotions are discussed).

The conclusions just reviewed show clearly the baselessness for the claims made for the direct power of the "mind," "ideas," "will," "will power," "volition," "wish," "desire," "the unconscious," "the psyche," "the subjective mind," "the objective mind," "suggestion," "imagination," and their ilk, made by so many writers on "the faith cures" (Christian Science, New Thought movement, etc.), hynotism, psychoanalysis, etc. It also shows the groundlessness for such widespread lay superstitions as the supposed causation of so-called "marking" or birth marks and deformities in the new-born by the mental states, impressions and thoughts of the mother during the period of gestation.

The power of emotions. In what we call emotions we may have reactions at various levels—ideational, locomotor, sensory, vegetative and chemical with, at the same time, a varying degree of consciousness, awareness or feeling of certain of these changes taking place. The degree and variety of these manifestations varies with the degree and variety of each individual emotional reaction.

Viewed in this light, therefore, the bodily changes in so-called emotions are not due to but are an integral part of the so-called emotions. In the emotions there are combined both mental and bodily reactions, in varying degree. But even in the case of these emotions, my views on the limitations of the power of ideas, as elaborated above, hold true. I hold — and it can be proved easily, as I shall do in a separate communication—that the difference between so-called emotions and ordinary voluntary activity, especially when the latter is pronounced and exaggerated, as in running, is in the motive or the mental state present at the moment. Otherwise the *modus operandi* is the same, and the reactions in the vegetative and chemical systems present in the emotions are produced *not directly, but indirectly* by the mental state, and accompany or are secondary to activity in the projicient system which precede them and which themselves are directly produced by the mental state. An analysis of the changes which take place in marked anger and a comparison thereof with the phenomena found to be present in boxing, fighting, running or competitive sport will show this to be entirely true. This is the theory of the nature and *modus operandi* of the emotions which

I accept and which, so far as I have learned up to date, is original with me.

In the so-called emotional states, it is plain, with its bodily states as components, we find bodily changes of all kinds.[5] Besides mental accompaniments in motive, consciousness and ideas, we may find changes from the highest to the lowest levels in our makeup—locomotor, vegetative and chemical. The writings of Darwin, James, Shand, Pawlow and his followers, Cannon, Crile, and many prominent psychologists and psychopathologists, are replete with illustrations of this truism and need not and cannot be offered here as evidence.

Depressing emotions are disintegrating and stimulating emotions are integrating. Emotions may be exciting or soothing.

Emotional reactions are more pronounced in persons with irritable, impressionable, sensitive, relatively unstable nervous systems — the congenital or acquired neuropath or neurotic, especially if the neuropathy affects, for the most part, the involuntary or vegetative system.

In individuals with organic visceral disease—heart disease, pulmonary disorder, arterial hypertension, etc.—the diseased organ or system is disturbed more easily by emotionalism, just as it would be by any increased bodily activity, thus leading to overwork and added strain, the weak links (the diseased organ or system) in the chain of bodily activities being apt to give way first and in greatest degree.

Fatigue predisposes to emotionalism and excessive bodily reactivity (irritable weakness) to stimuli.

The value of good habits of living and of healthy, sound individual organs and systems is clear.

The mental state or mood, with its ideas and emotions, immediately and directly produces or is accompanied by bodily effects in attitude, posture, gait, spontaneous locomotor activity and the secondary adaptive responses in the vegetative and chemical systems.

The more disturbed or defective or irritable the locomotor, vegetative or chemical systems, whatever the cause or causes, the more easily and profoundly they are disturbed by ideas or in emotions, directly (the locomotor system) or indirectly (the vegetative and metabolic systems), and the more predisposed to impulsive ideation and emotion is the human organism and the less easily controlled by the mind (consciousness, ideas and will power). There is thus a veritable vicious circle.

Emotion may directly aggravate, just as ordinary work would, already existing functional and organic disease of any organ.

At this point I must state that I do not believe in existence, because there is no sound physiologic footing for it, of ideogenetically produced, prolonged motor paralyses or sensory losses of so-called post-traumatic hysterical variety. Such functional conditions, not due to gross organic changes, are fatigue or exhaustion states, due to microscopic changes, with a psychogenic (ideational and emotional) element superimposed in most cases; or they can be traced to mere inaction with absence of real efforts to produce function in the involved parts, due to blind continuation of an original fatigue state which has since cleared up, but in spite of which the patient continues to act by misguided conviction as if the condition of fatigue or exhaustion was still present.

It is thus seen that in *emotions* there is no new type of human activity but merely a certain combination of the activities of consciousness, ideas, the projicient or locomotor system, the vegetative system, the sensory apparatus and the chemical system, with the *special* characteristic of a peculiar mental state which differentiates it from ordinary, non-emotional behavior.

Bodily causes of nervous instability. It needs no further argument to prove that the bodily state of health, physico-chemical and physiological, has much to do with our bodily reactions to situations in life.

Irritability, fatigue, impressionability or instability may be (a) *congenital,* from one or more of many causes, such as instability or neuropathy, general or localized, from parental, especially maternal syphilis, tuberculosis, malnutrition, etc.; or (b) *acquired,* which may be of several types, as follows: (1) *functional or physiological,* due to overwork, insufficient food or sleep, or the physiological epochs (puberty, menstruation, pregnancy, lactation, menopause, senium); (2) *organic nonnervous or extranervous disease,* such as tuberculosis, hyperthyroidism, arterial hypertension, nephritis; (3) *organic nervous disease,* such as cerebrospinal lues, mul-

tiple sclerosis, dementia precox, general paresis; (4) *drug and intoxication states.*

THE PRACTICAL IMPORT AND SUMMARY OF THE ABOVE CONCLUSIONS

1. This paper gives a working classification of the activities going on in the human organism.

2. The terms "mind" and "body" are used in this paper with definite clinical delimitations.

3. It gives the precise delimitation and the exact *modus operandi* of the influence of so-called mind on so-called body.

4. It combats and shows the error of the views of the various cults and faith cures, and the superstition, both lay and medical, as to the unlimited power of the mind over the body.

5. It explains the results actually obtainable and obtained by psychotherapy of whatever kind, besides giving the limits of its possibilities.

6. It differentiates between the power of ideas and the activities in emotions—*ideogenetic* and *emotiogenetic* phenomena.

7. It distinguishes between *immediate* and *remote* influences of the mind upon the body.

8. It differentiates between *immediate direct* and *immediate indirect* bodily influence of the mind.

9. It is apparent that the control of bodily activities is in the hands of each individual and demonstrates the need of such control, since the suppression of chance ideas leads to the suppression of unnecessary or harmful acts involving the locomotor system, and the accompanying secondary vegetative and chemical systems.

10. We have control, indirectly, by the control of ideas and emotions, over useless, wasteful activity of the voluntary or locomotor system and of the secondary vegetative and chemical phenomena.

11. This explains the true value, possibilities and therapeutic efficacy of all possible professional (intramedical) psychotherapy, of extra-professional "faith cures" and healing cults, of satisfying, self-sufficient, stoical philosophic attitudes or viewpoints, of religion and prayer, of attaining, by whatever means, nervous and mental poise, calm, quiet, equanimity, equilibrium.

12. Aside from the attainment of a mood of well-being and mental calm, obliterating unnecessary, depressing, inhibiting, destructive emotions (such as fear and its allies), and permitting a joyful, hopeful, forward-looking, life-loving, constructive policy or outlook or *Weltanschauung*—aside from this, the value of such mental states is both physical and mental; for they (a) *directly and immediately* lessen the drain on consciousness, ideation and the locomotor system activities; they (b) *indirectly but simultaneously and immediately,* through control of the locomotor system, lessen the drain on the vegetative and chemical systems; and they (c) *indirectly and remotely but not immediately* overcome the tendency to emotionalism, bad habits, and the evil results from prolonged continuation of such unhealthy habits of living.

13. All this means the conservation of human energy, and the ability to do more work and suffer less fatigue.

14. Finally, one can understand how symptoms referable to any of the levels mentioned in this paper — mental (consciousness, ideas or bodily (locomotor, vegetative, chemical) —directly or indirectly, immediately or remotely, whether wholly or in part, due to or aggravated by emotions and ideas or, in other words, dependent upon the thinking of the individual, may be cured, minimized or prevented, varying in each special case, by such methods as above mentioned.

15. But the *modus operandi* or the mechanics is not mysterious or mystical, but is based on definite physiological processes or laws, as explained in this communication.

16. And the limitations to functional conditions and its non-applicability to organic conditions (really gross destructive processes such as occur in injuries, inflammations, etc.) must be sharply drawn.

Every physician should aspire to diagnose and differentiate clinically, anatomically, pathologically and etiologically, between organic and functional conditions at all levels of activity in the human organism, tracing the course or origin to its ultimate or primary genesis.

This is difficult enough for the best physicians and even groups of physicians (so-called "teamwork") to do. And if this be true of trained physicians, with all their special experience and study, then surely no layman, no one not a physician can hope to or should be permitted to diagnose and treat ailments of any sort. Special kinds of treatment (massage, hydrotherapy, etc.) recommended by the physician, may be carried

out by laymen who have been trained in those particular fields. But this should be under the supervision of the physician.

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THE VON PIRQUET FEEDING SYSTEM*

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The war with all its hardships has brought home to the starving population in Europe the problem of how best to get along on the smallest amount of food possible. In order to do that, it was necessary to find out what food element could be done away with, or, at least, minimized. It was also necessary to find out what is the minimum requirement of the necessary food elements. The problem was most acute in regard to children, many of whom were left fatherless. The question arose, "How could nutrition be put on such a basis that life could be sustained by the least amount of food; and, secondly, how could this knowledge after it is obtained be imparted to the general practitioner, and in turn to the public? In answer to the two most important problems, Pirquet and his assistants devised a system of nutrition, aimed to be simple and yet accurate.

The system of feeding by calories, first brought forth by Heubner and Rubner, and later accepted by European and many American pediatricians, presented certain difficulties. Schick rightly points out that it is difficult to popularize the value of calories for practical feeding. The difficulty lies in the conception of calories. The presentation of the physical conception of the degree of heat necessary to raise 1 liter of water from 0 to 1 degree of heat is too abstract, to which is added the perplexity of differentiating between the larger and smaller calories.

The conception of calories is vague in the minds of many physicians, particularly those that are not especially interested in problems of nutrition. In the following discussion we shall make no attempt to discuss critically the pros and cons of the new Pirquet system of feeding. We will only endeavor to give an expose of the system, which we believe is the latest word in infant and adult feeding, and let the reader form his own opinion in the matter. We shall follow the work of Pirquet from his monograph and also the article of Schick in the *Ergebnisse* (1918), making most use of the latter work because of its moré compact and concise form.

The main supports of the Pirquet system are:

1st: In the place of calories he uses an easily understood physiological measure—milk.

2nd: The determination of the daily quantity of food necessary which is done by means of simple mathematical calculations dependent on the height of the individual in sitting posture.

Von Pirquet compares all nutritional foods to Mother's milk which, as is well known, has the following composition:

Protein	1.7%
Fat	3.7%
Sugar	6.7%

The standard Mother's milk has a physiological burning value of 667 large calories (in the body, not in the calorimeter).

The value of 1 Gm. Mother's milk is taken as the nutritional unit, each unit having 0.67 large calories, and the abbreviation (Nahrungs Einheit Milch) (Nutritional Unit Milk) or *N.* is used to indicate this unit.

This measure can be expressed in larger and smaller quantities.

0.001	N—1	Millinem	—1 NW
0.01	N—1	Centinem	—1 CN
0.1	N—1	Decinem	—1 DN
10	N—1	deKanem	—1 DKN
100	N—1	Haktonem	—1 Hn
1000	N—1	Tonnemen	—1 Tn

One can use the Latin words Nutritionis Elementum for N E M. or *N.* For general purposes Mother's milk and cow's milk have equal value.

The objection will be made, and in fact, has been made, that the N. value of foods is in reality nothing more than the caloric value, and that it is superfluous to substitute new values for calories.

Setting aside the previously mentioned in-

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definiteness and confusion that the idea of calories produces on the minds of some authors and the laity when used in foods, the advantage in using *N.* values lies in the elastic comprehensive conception of food that everyone without any difficulty can grasp when he compares food with milk values.

Here is an example:

We are going to give a 7 months old child a meal of farina equal to a meal of Mother's milk.

130 G. milk.
8 G. farina. This quantity to be boiled down to 100 G.
5 G. sugar.

The following shows the value of same:

130 G. milk	130 N.
8 G. farina	40 N.
5 G. sugar	40 N.
a 6 N.	
	200 N.

We find in this 100 G. mixture we have as many N.'s as in 200 G. milk, 1 G. farina gruel—N. N. This is called the double N. Now if I wish to replace a given quantity of milk with an equal quantity of farina gruel of the same N. value as the milk, I would take one-half of the above preparation. This is, of course, a more consistent mixture, thicker, and leads the way to giving a thicker food and a food that contains the same N. values to one-half the quantity of fluids.

As to the food elements required, Pirquet finds there is no minimum fat requirement for an individual. He fed infants skimmed milk with the addition of sugar and the infants did well. Protein is inevitable to human existence, but may be put at a minimum; at least, at a lower amount than suggested by Voit. Mother's milk contains 1.7 per cent protein; that is, in 100 grams or N. of Mother's milk we only have 1.7 GM of protein or 10 N., as each GM of albumen = 6 N., so $1.7 \times 6 = 10.2$.

This shows that the minimum is 10 per cent of protein. The maximum will be 20 per cent.

The second important point is the daily food requirements of the organism. There is the minimum, maximum and optimum requirements.

By minimum we understand that quantity of food that is necessary to replace the material used by the inner workings of the organism. The most important objectives are the workings of the muscles of the heart, the respiratory apparatus and the workings of the glands. Naturally all the organs are actively at work. This activity bespeaks as a side product, the production of heat which enables the body to keep an equal temperature. The bodily weight remains the same, in complete rest with a minimum of food, because the material used up is replaced. If this minimum food is not given, the internal working of the body persists, the material to sustain same being derived from the reserves of the body. There being no replacement through food, the body weight is reduced.

The maximum in the quantity of food taken is the amount that the stomach and bowels can

TABLE OF N. VALUE OF FOODS

"N" in 1 Grm. Rnd. Vals.	When Bought	Prepared in Kitchen	Hektonen in Grm.
13	3 Tallow, O.*; hogs fat, O.*		7.5
12.	Butter, ol. margarine, O.*		8.5
11.	Bone, marrow, 5		9.
10.	Bacon, H		10.
9.	Kernel of nuts H		11.
8.	Sweet almonds, 1		12.5
6.7	Fried skin of fowl, fat sausages, powdered full milk		15.0
6.	Sugar, "O." powd. cacao, 1; chocolate, 0		17.0
5.	Ham, 3; smoked meat, 3; fresh meat fat, 2; lean cheese, 4; fat cheese, 3; condensed milk with sugar, 1; leguminous plants, flour, 2; grain flour, 1; zwieback, 1; rice, 1; starch flour, 0; honey, 0; syrup, 0; skimmed milk, 4; dried shell fish, 7	Fat flour foods	20.
4.	Fish eggs, 4; blood sausages, 1; dried leguminous foods, fine wheat bread, 1; dried dates, H		25.
3.3	Condensed milk without sugar, 2; mixed bread, 1; dried vegetables, H. to 3; dried mushrooms, 3	Marmalade, 3	30.
2.5	Fresh meat medium fat, 4; fresh fish fat, 4; eggs, 3; prepared meats 6; chestnut, 1; curds, 6		40.
3.	Rye bread, 1; sardines, 5; sprats, 4	Light flour foods	33.
2.	Fresh meats, lean, 6; fresh liver, kidney, 5; bries, 7	Double N food, farina gruel, prepared vegetables, leguminous food, 2; spinach, 1; kohl, H; sour kraut, H; rice, H	50.
1.5	Calfs brains, 3; fresh herring, 7; prepared fish, 1		
1.25	Lungs, blood, 7; fresh fish, lean, 7; potatoes, H.; shell fish, fresh, 7		80.
1.	Mother's milk, 1; cow's milk, 2; green peas, 2; grapes, H.; sugar beets, H.; bananas, H.; figs, H	Equal foods. Prepared vegetables — potatoes, H.; milk foods, 1; thick soups, 1.	100
0.67	Fresh fruit, H.; fruit juices, 0; celery, 1		150.
0.5	Skimmed milk, 4; cut beans, carrots, 1; fresh onions, 1	Half food Thin soups	200.
0.4	Fresh spinach, 3; soup greens, 1; kohl, cauliflower, 2; turnips, 1; fresh mushrooms, 3		250.
0.33	Sour kraut		300.
0.25	Asparagus, 1; tomatoes, 1		400.
0.2	Lettuce, 1; cucumbers, 2		500.
0.1		Meat broth	1000

*O means no protein. H means ½ protein. Numerals mean amount of protein.

just about master without injury. This amount being the tolerance limit of the bowels. Minimum and maximum are under the physiological conditions of the individual not exactly fixed, yet, on the whole, well defined quantities. In diseased conditions, the maximum can vary greatly and also be very greatly reduced.

Between minimum and maximum lies the latitude of nourishing the body; within these borders one can be thoroughly nourished.

The conception of optimum feeding is entirely subject to the functioning of the body. We understand under optimum feeding the feeding that performs the ordinary requirements of the body, and under this feeding the body thrives the best. In a sound healthy body this is best shown when the body retains its weight in spite of daily regular work. The nursling receiving the optimum meals must thrive daily and increase in weight rapidly. Growth and increase in body weight belong to the normal development of the nursling. The demand that body weight increase daily does not exist in the following years. The increase in weight in later years is slower and is apparent only in lengthened intervals.

Up to the present, the determination of the quantity of food required for the human organism was based, according to Rubner, on the external surface of the human body.

Rubner has pointed out, or rather proven, that the consumption of energy of a hungry individual and a resting individual (warm blooded) of unequal body size is proportional to body surface. The direct determination of the body surface is a toilsome affair and not exact, and open to many objections.

Von Pirquet replies to this that the standard number of Rubner's were obtained from a hungry individual and a resting being. Such conditions are really exceptions—T. B. patients confined to the bed. In normal times we do not go hungry, but we satisfy our longings several times daily. The growing active child and the laboring man show different oxydizing processes than in the physiological experiments of Rubner. The laboring man does not work to prevent his bodily temperature from sinking. On the contrary, he will have to perspire to get rid of the heat that his working body produces. The heat produced by the body is not the principal aim of living, but a by-product of the bodily process.

The important linear measure for the system of Von Pirquet is the sitting height; the distance from the crown of the head to the sitting surface. Von Pirquet's attention was attracted to the importance of this measure incidentally while studying the development of the body, and he determined that between the sitting height and bodily weight there is a very simple relation in the sense that the sitting height of man raised to the third power with slight variation equals ten times the body weight (in well-nourished individuals).

Von Pirquet investigated further whether for this surface, determined through theoretical considerations, one could not find a real practical foundation and thought of the surface of the intestines as a food surface in its relation to sitting height from the reflection that the food is taken up by the intestines, and here obtained easily retained numbers.

Von Pirquet found a very interesting work of Henning's of the year 1881, in which it was proven that the length of the intestines in children and adults is easily reckoned from the sitting height. The new born has a sitting height of 33 c.m.; his intestines is 3.3 meters long. The sitting height of an adult is 87 c.m.; his intestines is 8.7 M. long. (L = Si 10.)

It is necessary now to obtain a knowledge of the width of the bowel. This is not a fixed width, but varies considerably. One can increase the width more or less with force. Width 1-10 of sitting height.

The essence of the Von Pirquet calculations lies in the relations of the daily food to the $\frac{2}{3}$ power of 10 times weight. This is the vital point of the conception. The identifications of $\frac{2}{3}$ power of 10 times the weight with resorbing surface of the bowels as an allowable plastic measure, which renders the popularizing of the system much easier.

The manner of reckoning the daily requirements of food can be figured out. It must be kept in mind that for the daily necessities for man two relatively fixed values are given—maximum and minimum. The maximum, that amount of food that the intestines can just take without being injured, and consists of N. value. 1 N. to 1 C.M.^{2} intestinal surface. The quantity

of food in N. value consists, therefore, of as many N. as there are C.M.² in intestinal surface. As the intestinal surface equals Si² C.M.² so the maximum = Si² N. The maximum of the daily quantity of food for a nursling of 40 C.M. sitting height $40^2 = 1600$ N. As the nursling subsists on Mother's milk entirely, it means 1600 g. In a grown person with 90 C.M. sitting height, the quantity of daily food required for maximum in N. value = $90^2 = 8100$ N. or 8.1 liters of milk. This amount of milk could not be taken as milk, but in mixed food reckoned in N. quadrated sitting height. Shortened siqua gives, therefore, the maximum of daily food required in N. values, or, in other words, we can say instead of siqua in N., siqua = 10 N. siqua = 10 Dezin Siqua. The maximum = 10 Dezin Siqua. The minimum of daily food which is required to supply the demands of the inner workings of the body is 3-10 of the maximum quantity = 3-10 Siqua or 3 Dezin Siqua.

The nursling above mentioned having 40 C.M. sitting height would cover the requirements for the internal workings of the system with 1600 N. × 3-10 = 480 N. or grams of Mother's milk minimum. The adult with 90 C.M. sitting height with 8100 N. = 3-10, 2430 N. The nursling with this quantity of food and normal life could subsist having stationary weight; the adult only on absolute quiet, absolute rest in bed.

In severe sickness accompanied with high temperature, the adult could occasionally live on a milk diet alone; since for practical purposes cow's milk and Mother's milk are equivalent as foods, having the same N. value. We learn from the above calculations that to cover the minimum requirements of the adult having sitting height of 90 C.M. 2430 are necessary.

The optimum of the daily food values varies at different ages and in different occupations. The calculations for the daily food necessities follows, therefore, in a manner requiring the minimum to be covered.

For all functioning of the organism the minimum requirements must always be added. In diseased conditions of the body it may happen that the minimum requirements will cover all demands, and even less than the minimum will do—(fasting in ulcers of the stomach). On the other hand, in case of hard labor (blacksmith, steel workers, or wet nurses, nursing other children besides their own) optimum will be the maximum. In working animals the maximum good in maximum working demands will equal the optimum. As a rule, however, the optimum is the happy medium between minimum and maximum.

The additions to the minimum, 3 Dezin Siqua, are easily figured out acording to the folowing summary:

For growth	1	Dezin
For adding fat	1–2	Dezin
For light sitting labor	1	Dezin
For standing labor, light bodily occupation or moderately active movements and children playing	1	additional Dezin

Practical examples:

First half year—

Minimum	3	Dezin Siqua
Addition for growth	1	Dezin Siqua
Addition for fat deposit	1–2	Dezin Siqua
Total	5–6	Dezin Siqua

Second half year—

Minimum	3	Dezin Siqua
Addition for growth	1	Dezin Siqua
Addition for fat deposit	1	Dezin Siqua
Addition for sitting and other muscular movements	1–2	Dezin Siqua
Total	6–7	Dezin Siqua

Second Year, end of child's year—

Minimum	3	Dezin Siqua
Addition for growth	1	Dezin Siqua
Addition for standing movement and employment		
Addition for movements running around in playing according to activity	2–4	Dezin Siqua
Total	6–8	Dezin Siqua

At the age of puberty 7-8 Dezin Siqua will likewise be necessary.

If one wishes to accumulate fat in undernourished children or in convalescence after an attack of sickness, the children will have to be kept quiet in bed and be fed as if in full activity; then the food that would be used up in full activity will deposit fat and increase proteids in the body.

In adults the addition for growth will not be necessary; also the addition for fat, except for under-nourished and convalescent individuals. For these reasons the necessary quantity of food will be calculated as follows:

Minimum	3	Dezin Siqua
Addition in sedentary occupation	1	Dezin Siqua
Total	4	Dizen Siqua

For the different years and occupation Pirquet determined the following Hekton values:

Nursling	Nursling From 8 months to 1½ years.	2 to 3 years
Gradually raising quantity to 10 HN (1. KI.)	10-15 Hn.	20 Hn (11K.)
4 to 7 years 25 Hn. (II a.)	8 to 11 years 30 Hn (III.)	
Girls of 12 years. 35 Hn. (III a.)	(End of puberty.)	Boys of 15 years (End of puberty) 40 Hn. (IV KI.) to 45 HN. (IVa KI.)

The amount of food that would suffice to nourish a child in the ten year old class is as follows:

Sitting Height in C.M.	Daily Quantity Hekton	Food Class
42-50	15	Ia
51-56	20	II
57-62	25	IIa
63-68	30	III
69-73	35	IIIa
74-78	40	IV
79-82	45	IVa

Example of a nursling in the 7th month who has received farina. (Double the amount of food. Sitting 40 C.M.; Siqua = 1600. The child sits and is lively; therefore, receives 2 Dezin to the 5 Dn. given a nursling. This makes 7 Dezin. The necessary amount of food is, therefore, 1600 × 7-10 = 1120 N. If we want to give five milk meals; 1 cereal meal (midday meal) we prescribe as follows:

5 × 160 g. = 800 g. ½ milk = 400 C.M. cow's milk and 400 g. water = 68 g. sugar.
The cereal meal — 2 × 160 g. farina gruel = 320 N.
The day's quantity equals 1,120 N.
A nursling of twelve months receives five meals daily besides milk is given; milk, vegetables and soup.
Sitting height = 40 C.M.
Siqua 45^2 = 2025.

Food requirements	3 Dezin
Additional for growth	1 Dezin
For accumulation of fat	1 Dezin
Sitting occupation	1 Dezin
Lively movements	1 Dezin
Total	7 Dezin Siqua =

2025 × 7/10 in round numbers =	1400 N.	= 14	H.N.
We use 3 × 200 milk =	600 N.	= 6	H.N.
We had 3 × 17 g. 51 g. sugar =	300 N.	= 3	H.N.
For three meals—			
For mid-day meal 100 g. soup =	10 N.		
With 8 g. farina boiled down =	40 N.		
100 g. vegetables—equal food =	100 N.	= 1.0	
15 g. bread =	50 N.	= 0.5	
100 g. broth =	300 N.	= 3.0	
Total	1400 N.	= 14	H.N.

The above food is distributed as follows:

6 a. m.	200 g. milk 17 g. sugar =		3 H.N.
9 a. m.	200 g. milk 17 g. sugar =		3 H.N.
	0.5 1.0		
12 a.	100 g. soup 100 g. vegetables =		2 H.N.
	0.5 15 g. bread		
3 p. m.	200 g. milk 17 g. sugar =		3 H.N.
6 p. m.	150 g. farina gruel =		3 H.N.
Total =			14 H.N.

SOMETHINGS ABOUT EMPYEMATA.*

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It is with design that I have chosen the title "Somethings About Empyemata," presuming thereby to grant myself pardon for failing to present to you a treatise such as the ordinary rules of composition demand. Instead I shall attempt to present, in a brief, concise resumé, some isolated observations noted in the course of a study of 204 cases of empyema. There were, in this series, 126 deaths of which 109 came to post-mortem examination. Of these latter 78 had been followed by roentgenograms. I shall consider here three main topics, namely, the classification of empyemas, factors concerned in their diagnosis, and the diagnosis of some of the commoner forms.

*Read by invitation before the Scott County Medical Society at Davenport, Iowa, April 6, 1920.

CLASSIFICATION

Empyemata may be classified:

Anatomically: as to the position they occupy in the pleural cavity in relation to the intrathoracic organs.

Pathologically: as to (a) the character of the exudate; (b) the manner and form in which it exists.

Bacteriologically: as to the nature, type and variety of the causative organism.

Chronologically: (a) as to duration; hence, 1, acute; 2, subacute; 3, chronic.

(b) In relation to the pneumonia: 1. Parapneumonic, when they accompany a pneumonia. 2. Meta or post-pneumonic, when they follow a pneumonia.

(c) In relation to the empyema: 1. Primary, when they accompany or follow directly upon a pneumonia. 2. Secondary, when they follow upon an already existing empyema, e. g., an interlobar or substernal empyema resulting from a diffuse empyema.

It is assumed from this manner of classification that they never occur without some pre-existing pulmonary infection. Hence such as follow upon simple pleural effusions cannot rightfully be included here.

Anatomically considered, there are eleven varieties, in the order of their frequency as follows:

1. *Costo-pulmonary* — occupying that space between the visceral and costal pleuræ or more broadly speaking, between the lung proper and the thoracic wall.

2. *Intra-pulmonary* — or as they are more commonly designated, pulmonary abscesses.

3. *Inter-lobar* — occupying those areas in which the visceral pleuræ come in contact, namely, the fissures.

4. *Sub-sternal*—designating those lying directly behind the sternum, between the reflections of the right and left pleuræ. Consequentially, as can be seen from the anatomy of the part they are limited to the superior mediastinum.

5. *Pericardial*—of these there are three varieties:

A. *Costo-sterno-pericardial*—a term used to designate such empyemata, usually very small, which have for their floor the pericardium where it lies in relation to the chest wall; that is, the left one-half of the lower portion of the body of the sternum and the inner ends of the cartilages of the 4th, 5th and 6th ribs.

B. *Pleuro-pericardial*—designating more expressly those empyemas lying between the pericardium and the pleura of the left lower lobe, where this is reflected over the pericardium.

C. *Mediastino-pericardial*—designating those empyemas occupying that area between the pericardium and the pleura covering the right lower lobe. Hence virtually existing in the anterior mediastinum.

6. *Diaphragmatic* — those lying on the diaphragm and roofed over by the base of the lung.

7. *Costo-diaphragmatic*—occupying the costophrenic angle, either anteriorly, posteriorly or laterally. They are roughly triangular in shape, the base being formed by the diaphragm, the perpendicular by the ribs and the hypotenuse by the compressed lung and its fibrinous exudate.

8. *Mediastino-pleural* — in contradistinction to substernal variety, are those lying between the mediastinal tissues and the reflection of the pleuræ on either side. Hence they are extra-pleural, lying directly in relation to the mediastinum, but not occupying it.

9. *Apical*—enveloping the entire apex of the lung like a cone, or localized over any portion of it.

10. *Para-vertebral* — lying alongside of the spinal column, throughout the whole or part of its length.

11. *Myo-pleural*—in reality extra-pleural abscesses lying between the intercostal muscles and ribs and the parietal pleura.

Pathologically considered:

(A) As to the character of the exudate, they may be—

1. Serous
2. Fibrinous
3. Hemorrhagic

} potential empyemas

4. Purulent
5. Mixed or complicated by a pneumothorax.

While it is true that in the strictest sense the serous, fibrinous and hemorrhagic varieties may not be classified as empyemata, yet with the exception of the serous effusion, as occur in tuberculous pleurisy, it is the rarest exception to find serous exudates due to other organisms, which do not eventually become purulent.

(B) As to the manner and form in which they exist.

I. *Diffuse*—applied to such empyemata as are spread over a considerable area, lie more or less free in the chest cavity, show a tendency to shift position and do not require the breaking down of adhesions for drainage. This term applies especially to the costo-pulmonary variety. These may be

(a) *Multilocular*—in which the empyema cavity is divided into several or innumerable pockets or cells by soft shaggy friable bands of fibrin, giving the pleurae, when separated, a mosaic appearance.

(b) *Simple* — in which there is an absence of such adhesions, there being but one cavity.

II. *Encapsulated*—a term applied to primary or secondary empyemata, which by some freakish circumstances have localized in some portion of the chest cavity, becoming walled in by fibrinous adhesions. They are found most frequently in areas where the anatomical relations are such as naturally to prevent their immediate escape, for example, between the fissures and between the pleuræ and pericardium. Hence they are prone quickly to become walled in by adhesions. These may be

(a) *Single*—when there is but one such encapsulation.

(b) *Multiple*—when there are more than one.

Either of these may be simple or multilocular.

III. *Combined*—In addition to the above any variety of empyemata may be present in the same chest that is the diffuse and encapsulated may co-exist. One may be simple, another multilocular.

Bacteriologically considered, we find either as primary or secondary invaders, the following organisms:

1. Pneumococcus; Types I, II, III, IV.
2. Streptococcus; pyogenes.
   Hemolyticus } long or short chain.
   Non-hemolyticus }
3. B. Friedlander's.
4. Staphylococcus.
   albus.
   aureus.
5. Unidentified organisms such as a gram positive diplococcus.
6. B. Tuberculosis.
7. Mixed.

Factors in diagnosis. From this brief review of the classification, one can readily appreciate the difficulties encountered in making a diagnosis. Among the principle factors concerned there are five:

1. The condition or state of the lung in reference to the presence or absence of consolidation. If present, whether the consolidation be complete or massive, as in lobar pneumonia, whether it be partial and patchy as in broncho-pneumonia or again whether absent as in interstitial pneumonia. Further, the physical signs may be modified by the presence of two distinct types of pneumonia in the same lobe or lung. Again, if the bronchus leading to the involved pulmonary tissue is patent, permitting the free passage of air, the signs differ from that condition in which it is obstructed by mucous plugs.

2. The position of the lung is of no less importance. In cases in which the lung is collapsed the result of compression by a large amount of fluid, so that air fails to reach the alveoli, the findings would, of necessity, differ from a collapsed lung, the result of a pneumo-thorax. In this latter condition aeration of the alveoli occurs. Again, should the lung be adherent to the chest wall, throughout its entire surface, the findings are considerably modified and differ from those in which merely a portion of the lung is so attached.

3. Next to be considered is the character of the exudate, for both the physical findings and the appearance of the x-ray plate depend upon whether it is serous or purulent, acute or chronic, the amount and the rapidity of formation.

4. Of importance second to none is the location of the exudate. The presence of those readily accessible, such as the costo-pulmonary and costo-diaphragmatic varieties are easily determined, whilst such as the mediastinal and the para-vertebral are almost without the range of diagnostic possibility. Here, too, must be considered the presence of encapsulations, multiple empyemas, interlobar empyemas and the complete overshadowing of these by the presence of a massive diffuse or multilocular empyema occupying the costo-pulmonary space.

5. Complications and conditions within the chest, such as pericarditis with effusions, pneumothorax, pulmonary fibrosis, deformities of the bony framework and chronic empyema play not an inconsiderate role in modifying those findings upon which a diagnosis rests.

Diagnosis.—While the diagnosis of the presence of an empyema presents in the main no great difficulties, still the determination of its exact location and its extent is oftentimes a problem. In general, the diagnosis depends upon a complete history, careful physical examinations, roentgenograms and exploratory puncture. I shall try to point out some of the salient features in the diagnosis of the various types.

Costo-pulmonary. This, the classical form, occurring as an acute, primary, diffuse, purulent, meta or post-pneumonic empyema, presents a more or less constant picture.

When, following the decrudescence of fever in lobar pneumonia, the fever reappears daily with an afternoon rise; or shows a sudden but temporary elevation; or continues low, but is persistent and when the ralé redux ceases to exist in its original intensity, an accumulation of pus in the chest cavity is suggested. When along with this the leucocyte count continues to rise, fluctuates or remains persistently high, careful scrutiny of the chest is in order. When further, the lung findings as present in the resolving or resolved pneumonia have cleared, and when the progress of the patient, as evidenced by increase in strength, weight, appetite and mental activity is at a standstill, further and more searching examination of the chest is imperative and a stereo-roentgenogram should be made. When, to the persistent rise in temperature, the persistent increase in leucocytes, the retarded or absent convalescence, chills and sweats, or sweats without chills are added and when the stereo-roentgenogram fails to reveal, definitely, the presence of

pus, still another patient painstaking, comparative physical examination of the chest must be carried out. Where areas of dullness exist, with or without diminished or absent breath sounds, cautious needling of the chest should be resorted to, using a very sharp, large calibre needle and an aspirating syringe. Such in brief are the ordinary methods to be employed in searching for this type of empyema.

In the para-pneumonic type of empyema, such as exists simultaneously with a pneumonia and which in most instances is due to the streptococcus, certain outstanding features present themselves.

The onset in such cases is usually abrupt, preceded not infrequently by indisposition, slight malaise, chills or chilliness, headache, coryza and dizziness. Again it may follow upon a cold or bronchitis, a sore throat or one of the exanthemata, especially measles. Like pneumonia, it is ushered in by a sudden, sharp, intense cutting pain in either or both chests. With this there is dyspnea and hyperpnea, the movement of the diaphragm is restricted and the respirations are short, jerky and of increased frequency. The features are drawn, the expression anxious, the eyes injected, sunken and glistening, the cheeks hollowed, and the skin covered with sweat, is of dusky scarlet hue underlain by a pasty, yellow-brown cast. The pulse at first slow, soon becomes rapid, weak and thready, the temperature fluctuates from 101 to 103 and the patient presents the picture of one suffering from some mortal disease.

The chest findings, if taken by themselves during this period, show little in proportion to the symptomatology to suggest pulmonary involvement. Lessened excursion with voluntary fixation of the affected side, slightly impaired resonance and muscle spasm may or may not be present. The breath sounds, usually depressed, are somewhat distant with an absence of the normal vesicular murmur and some prolongation of expiration. Occasionally there are a few fine or sibilant ralés. The whispered voice is absent and the spoken voice slightly intensified, but there is a notable freedom from any abnormal findings such as bronchophony and pectoriloquy. Pleural friction sounds are usually absent.

With a beginning accumulation of fluid, which usually occurs within twenty-four to forty-eight hours, the pain ceases, dyspnea becomes more intense, and cynosis more marked. There is some impairment of resonance, approaching dullness, expansion is lessened and the diaphragmatic excursion as determined by percussion is limited. The breath-sounds are distant and both the spoken and whispered voice sounds take on a soft blowing character. The normal vesicular murmur is less distinct and a few fine ralés are present, the result of the expansion of an atelectatic lung.

As the amount of fluid increases, which it does very rapidly, often reaching as much as three thousand cubic centimeters in twenty-four hours, the symptoms merely become more pronounced, but the physical findings undergo a complete change. With such accumulations there is compression of the lung, the fluid is turbid and becomes purulent only after a few days. The most striking phenomenon is the percussion note, whose components are two, namely, the palpatory phenomenon and the auricular phenomenon.

As the pleximeter finger is laid upon the chest it perceives a sensation of fullness and resistance. The intercostal muscles are tense and tactile fermitus is absent. As the pleximeter finger is struck (the ear in the meantime remaining deaf to the character of the note elicited) one experiences the sensation which comes from percussing a stomach tightly distended with gas. The rebound, however, is absent and instead of that feeling of resiliency and "give" the pleximeter finger falls flat, striking with a thud.

Upon becoming attentive to the character of the sound elicited, one finds, contrary to expectation, not a note dull or flat, but one of a relatively resonant dullness. It is short, high-pitched and yet tempered to some degree with a cavernous quality.

Without further examination one may insert his needle, for such a note is almost pathognomonic of large amounts of serous or turbid fluid.

Upon auscultation the breath-sounds are distant with a complete absence of the normal vesicular murmur and usually no ralés. Again, the breath-sounds are blowing in character and with either the spoken or whispered voice become distinctly bronchial or tubular and are heard close to the ear.

Interlobar. The subject of interlobar empyema

is sufficiently great to occupy a chapter by itself. Without attempting to do it justice, I shall point out a few of its characteristic features. Rarely primary, such empyemas more often co-exist with a diffuse empyema or appear after such an empyema has been drained. They show a predilection for the fissure between the upper and middle lobe, where they exist as a thick shaggy exudate of fibrin containing multiple pockets. As such, their presence cannot be determined by physical examination. The x-ray occasionally reveals them as the linear shadow of a thickened interlobar pleura. When, however, they are solitary, reach the size of a walnut, are near the surface and the costo-pulmonary space is free from pus, their diagnosis is less problematical. The symptomatology is that previously described, namely, fever, leucocytosis, chills and occasionally pain over the area of localization; there is impaired resonance or dullness, or where the empyema assumes proportions, distinct flatness. Surrounding this is an area of normal or an area of Skodaic resonance. The breath-sounds over the area are absent, but more intense surrounding it. The x-ray usually reveals a uniformly dense circumscribed shadow which, if followed in serial plates, will continue to increase in size as the accumulation becomes greater. These findings are to be sought in the third right interspace in the anterior axillary line, occasionally in the axillary space.

The insertion of a needle over the point of maximum dullness corresponding to the roentgenographic shadow confirms the diagnosis.

Sometimes one finds it necessary to insert the needle at different angles before the pus can be reached.

Substernal. Where small, diagnosis is impossible. Where they assume dimensions, the symptom of dyspnea, stridor, dysphagia, hoarseness and substernal oppression should bring to mind their possible existence. Dullness on percussion over the sternum and an unusually wide mediastinal shadow strengthen the probality. By inserting a needle into the mediastinum at the left border of the sternum in the second or third interspace, the empyema cavity sometimes may be reached. For obvious reasons the utmost caution should be observed.

Intralobar (pulmonary abscess). These, as seen in pulmonary tuberculosis, in pulmonary emboli, in the aspiration of blood and foreign bodies, do not fall within the province of this paper. Those associated with pneumonia and empyema, unless large, are difficult to detect. Should they empty themselves by way of the bronchi, the character of the sputum might lead one to suspect their presence. Being masked so frequently by a co-existing costo-pulmonary empyema or thickened pleura, physical examination serves little, and even the x-ray frequently fails to reveal their existence.

Being acute, they are without the usual surrounding inflammatory exudate. Hence the shadow density which such an exudate would cast and which is one of the earmarks of pulmonary abscesses, is absent. Further, the interpretation of their presence depends upon their size, their location, their outline and whether they are filled with an exudate or are empty.

When one finds a circular or oval shadow, more or less regular in outline, enveloping a darker (when the cavity is filled) or lighter (when the cavity is empty) shadow of uniform density; when this shadow is located near the center of the pulmonary parenchyma and borders upon the abrupt termination of a bronchus, one may be reasonably sure that he is dealing with a pulmonary abscess.

Pericardial. When these lie between the pericardium and chest wall as in the costo-sternal variety, they are very small and their position so obscured by the ribs and sternum, that both the physical examination and the x-ray plate fail to reveal their presence. In the pleura-pericardial and mediastino-pericardial varieties the diagnosis is usually arrived at by exclusion and takes into account chiefly the physical and x-ray findings.

Almost always secondary to a pre-existing empyema their presence at first is indicated merely by the signs of pus, as aforementioned, namely, elevated temperature, increase in the number of leucocytes and occasionally chills and sweats. Upon careful and searching examination of the chest, one commonly, but not invariably, finds a pleuro-pericardial friction rub. It is heard only upon inspiration as a to and fro grating murmur, synchronous with systole and diastole and is found almost always over an area about 25 cm. inside the apex impulse. It usually persists until agglutination of the parietal pleura and pericardium takes place. As compression of the ligua

pulmonis (on the left) occurs a few fine or sticky ralés are heard upon deep inspiration. As the accumulation of pus becomes larger, the percussion note over the involved area becomes duller. But, because of the proximity of the empyema to the pericardium, it is easily mistaken for an increase in the transverse diameter of the heart. Upon auscultation, the breath-sounds, due to the compression of the lung, may be blowing in character, more often they are suppressed. The absence of ralés, pronounced dullness and bronchial breathing serve to distinguish it from consolidation. The absence of muffled or distant heart tones, and the ability to palpate the position of the apex beat, together with an absence of a pericardial friction rub, serve in a measure to distinguish these empyemata from pericardial effusions.

Along with this the x-ray findings are helpful. One finds in the pleura-pericardial as well as the mediastino-pericardial variety a feathery or even denser irregular shadow, apparently merging with that of the pericardium. However, if one look closely he may frequently perceive the clear-cut outline of the pericardium, which can be distinguished as something definitely apart from the softer mottling of the pericardial empyema. Further the irregularity of the shadow alone is suggestive, for even with large pericardial effusions the outline of the pericardium remains regular.

One point of confusion does exist and that is the presence of a consolidation, beginning or resolving, in the adjacent pulmonary tissue. This cannot be distinguished from either of the varieties of empyema mentioned. In such the element of time is of some aid. In beginning consolidation, the shadow enlarges rapidly and becomes denser. In resolving consolidation it soon disappears. In pleuro-pericardial accumulations of pus, it usually remains unchanged and persists even for weeks.

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THE PROGRESS OF MEDICAL SCIENCE DURING THE WORLD WAR*

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Someone has said: "There isn't a great deal of life that is really strange. It's the same old story and only wonderful to the young." No doubt these words were written by one not in intimate touch with the rushing, roaring stream of life, or it may be by one blasé, pessimistic, some time in the early Victorian era, before the great awakening that characterized the latter half of the nineteenth century had occurred. Be this as it may, who will controvert the statement that today we are living in the wonder-age of the world's history? This is a day of many marvelous things, not to the young alone, but to the old, time-hardened men and women as well. Recorded history does not reveal any period in which so much that was really strange emerged from the misty unknown for the edification and advancement of the human race as in the present. And it would seem that this is a beginning only and that the progress thus initiated will, like the Sisyphean stone, once started on its way, sweep on with increasing velocity—whither and with what limitations and to what purpose? The seemingly impossible is happening constantly. One accomplished wonder but opens the way for the next and greater. The supernatural of seventy-five years ago is the accepted and to be expected reality of today. Doubtless tomorrow that which we now regard as supernatural will, with increasing knowledge, be the commonplace reality in the physical and natural life and new ideas of the supernatural will be popularly entertained. Thus are we speeding toward that day when death itself, "the last great enemy," will be conquered, and that change be regarded no longer as supernatural, but just as real and unnoteworthy as the falling asleep at night and the reawakening in the morning light. This is no idle dreaming. It is the inevitable conclusion toward which conscious and thinking man must tend as he views the startling and seemingly impossible developments of the succeeding days.

Do we ever stop a moment to realize, if we can, how rapidly the wheel of progress is revolving? No one here tonight is aged and yet within the span of life of the oldest here nearly all that constitutes our modern idea of comfortable living has been evolved and made commonplace. It was only as recently as 1856 that Morse devised the telegraphic alphabet and by this discovery encircled the globe in a few seconds of time. Marconi, Tesla, Edison and the other wizards of the electrical science have followed

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closely upon his heels, eclipsing his deeds and then their own by wonderful and still more wonderful discoveries—and that sturdy science is still in its early infancy. No doubt some here remember when the first telephones were installed in our cities to the wonder and delight of all; and when elevators, which have made possible the construction of the Woolworth building and other modern skyscrapers, were first planted in our houses; and I myself recall, as a boy, when arc-lights were tried out for a year in Philadelphia on "the quiet street of Chestnut"—and I defy anyone to call me old. Today we talk across the continent with comparative ease and no home would be complete without its telephone and electric service. Wireless telegraphy and telephony are with us now and interplanetary communication through ether-waves is looming on the scientific horizon.

It was only in 1832, but 88 years ago, that the first railroad in this country and in the world was laid between Philadelphia and Germantown, and about the same time steamboats began to ply our rivers and lakes. Today the civilized world is gridironed with steel, and the mammoth coal and oil-burning locomotives and steamships render heavy commercial and passenger transportation but a trifling matter. Truly, the age of steam rose rapidly, only, however, to begin its decline in our own day before the strenuous advance of the age of electricity. The same year, 1832, one is amused, when reading of the celebration of the centennial anniversary in Philadelphia, on February 22, of the birth of Washington, the "father of his country," to note that the historic tower of Independence Hall "was brilliantly illumniated with glass lamps," which had been loaned by patriotic citizens for that purpose. It was not until the following year that gas-illumination was introduced in Philadelphia, and general electric lighting is a development of but very recent date, within the memory of us all. Now, all the world is ablaze with electricity and the "great white ways" of the cities amaze and delight.

And thus it has been in every field of scientific activity. Röntgen, delving in the mysteries of the ultra-violet rays of light, discovered in 1895 the marvelous x-rays, which defy the opacity of certain tissues and have made it possible for us to look each other through and through—those rays which reached the acme of their usefulness to date during the recent war and compelled the formation of a great and valuable section of the medical department of the world's armies. Organic chemistry took a new lease on life with the discovery of the coal-tar group of derivatives three decades or so ago and with this increased activity sprang into existence the great number of synthetic compounds which have done so much for medicine and other advanced sciences. Today the scientific world is all agog over the new theory of relativity propounded by Albert Einstein of Berlin, whose discoveries regarding gravitation and whose theories concerning time and space are, it is claimed, as epoch-making as were the discoveries of Copernicus, Kepler and Newton.

After centuries of patient waiting and planning, marked now and then by costly experimentation and the loss of valuable lives, the dream of "Darius Green and his flying machine" became true in our day—as dreams so often do after undergoing the bombardment of biting ridicule and violent opposition—and with the work of Langley and the Wright brothers aviation came to stay as a long step forward in the problem of transportation. I doubt not that in another decade the air will be vibrant with the roar of transcontinental aerial lines of travel which will be just as safe and infinitely cleaner than is railway travel today. Truly in our time has Mother Shipton's prophecy been fulfilled in every detail. Men now ride under rivers and ocean bays and plunge speedily and noisily through mountains and beneath the roar and bustle of the world's greatest metropolis; carriages now move without apparent motive power, and the horse as a means of traction is speedily disappearing from the highways of life, if not from the country byways and lanes. The trolley-car, the automobile, the motor-truck and the tractor, the submarine and the tank have all appeared in the lifetime of the youngest here tonight. We wonder what would have been the outcome of the great world-war had these not been available for the rapid transportation of men and the munitions of war. The twenty thousand automobiles of Gallieni's army won the first battle of the Marne and forestalled the capture of Paris.

With the explorations of Peary, Amundsen and Scott the hopes of centuries of ambitious and

herculean effort were realized in our time, and the poles of the earth today, while not familiar terrain, at least have been charted and the coveted laurel of discovery has been won by intrepid men and clean. Who cannot recall the thrill of delight which stirred the very marrow of his hones when first he gazed upon the wonders of the cinematographic screen? It was only in 1894 that Edison patented this fascinating invention. Today it is recognized as one of the best mediums of instruction as well as of mental and physical relaxation at our disposal. Associated with it in our minds is that other brilliant Edisonian invention of an earlier date (1877), the phonograph, which has imprisoned the voice of man and musical sound upon hard rubber discs and perpetuated them forever. This wonder has now largely taken the place of the piano in the average household. Familiar as we are with these great and marvelous inventions, do we realize in full their value from an historical and educational point of view? Let us suppose for a moment that we were privileged to see Washington and the patriots of Valley Forge and the other memorable scenes of the Revolution move upon the screen, as for instance at the battles of Princeton and Yorktown, or in Independence Hall signing the Declaration of Independence! Suppose we could hear their voices, true to life, issuing orders for the campaigns or delivering the farewell address to the officers at the close of the war! Suppose we could see Lincoln and his cabinet in session and the noble leaders of the Civil War in some of the stirring events of that day of national tribulation—the signing of the Emancipation Proclamation, the Gettysburg address, the inauguration! Who would not be thrilled beyond expression were these things possible and visibly and audibly enacted upon the cinematographic screen? Yet a century from now and less our successors upon the world's stage will enjoy just such privileges and thrills as these.

But not alone in the realm of science has this marvelous progress been noted during these recent years. Political and sociological changes, incredible and of far reaching influence, have occurred the world over. Truly, empires are rocking, thrones are tottering, monarchies crumbling and royalty fading into the limbo of discarded grandeur! Where now are the Braganzas, the Romanoffs, the Hapsburgs, the Hohenzollerns? Democracy has seized upon the world; the people are coming into their own, when they shall have throttled the red masses of bolshevism that have sprung like the hydra-headed monster of old out of the turmoil of the war. Portugal, Germany, Austria, Hungary, Poland, Czecho-Slovakia and other smaller republics, people-ruled and people-free, now rise where but yesterday almost absolute monarchism prevailed; and incidentally with this democratic governmental evolution the geography of Europe has been rewritten and revised to the perplexity of students of former days. Twenty-two years ago the sinking of the "Maine" transformed this country from a continental republic into a world power. What changes have since occurred here, changes that rival the wonders of the Arabian Nights Tales! The Caribbean, then a foreign sea, is now an American sea, "the entrance to the great American trade route through the Panama canal." The Spanish Philippines now have "native rule under an American governor." Japan, then still the "ward of Perry," is now a world power, and has "dispossessed Russia and Germany of Asiatic holdings, and has issues of gravity with the United States. Then the "isthmian waterway was a jungle-grown French failure." The Pacific then was a "sea for traders and foreign missionaries;" today "American possessions and naval stations spread across that ocean flanking the trade routes." Then we were an isolated nation; today we are considering the making of European alliances and the formation of a world league.

After six centuries of Moslem rule, who so bold as to dream that in our day the Turk would be expelled from Europe, that the Holy Land would again fall under the domination of Christian rulers and that the long-sighed for time of the restoration of Judaism would become imminent? Yet Allenby and others have brought just this to pass but yesterday! And, *mirabile dictu*, the oldest empire in the world's history, China, the sleeping giant of the East, whose throne was established by Yu-hi in 2852 B. C., has begun to shake off the lethargy of centuries and now lives the infant republic of Asia, whose countless millions under competent leadership might readily overrun the world and establish universally the civilization of the vast and mystic Orient. Along with these mighty and world-shaking political revolutions old and time-honored ideas and be-

liefs have fallen nevermore to rise and new and astonishing doctrines dominate the masses. Woman suffrage, stimulated by the magnificent work done by the women of the world during the Great War, is sweeping this country, England and other countries of Europe and Asia. At last after weary years of determined effort in the face of ridicule and bitter opposition the dream of John B. Gough and Francis Murphy has been realized and now we are face to face with national prohibition. Sociology today proclaims the death of autocratic exploitation of man by man and the slogan, "Liberty, Fraternity, Equality," is becoming no longer a phrase to be mouthed by orators and demagogues, but a living, burning fact. Time would fail me were I to expand on this age of wonders in the world in all the fields of action and endeavor. What I have thus briefly noted is quite sufficient, I think, to refute the quotation with which I began this address. There is much that is really strange and new in the world today, and "eye hath not seen nor ear heard, neither hath it entered into the heart of man to conceive the things" that are laid up in the rapidly unfolding pages of futurity.

Think not amid these epochal and kaleidoscopic changes that have amazed and still are amazing mankind, that the great and noble and venerable science of medicine alone has remained dormant and unshaken. In medicine and surgery, as in all other sciences and fields of research, this has been a vital and transitional period of upheaval and overthrow, of iconoclastic skepticism and irreverent profanation. The age-old established views and theories of the fathers of medicine are being subjected to the cold, critical and analytical eye of modern discovery and scientific investigation with startling results. It took two thousand years for men to awaken, but recently, to the fact that malaria was not produced by miasmic poisons emanating from swamp-lands, but that it resulted from the altogether preventable bite of a certain species of mosquito. It is not taking so long now to overthrow and refute other beliefs of equally sound standing and as honorable lineage as this. Dr. Ira S. Wile, in his paper, "Medicine of Tomorrow," has enunciated a pregnant truth when he asserts that "the era of preventive medicine is at hand." Almost all the advances in medical science of the present century have been along this line.

There is a glamour associated with antiquity. The bright lights in medicine of other days loom larger in the perspective than do those no less brilliant names of the doers of deeds of our own day and generation. We live too near these to appreciate their true worth, and yet with the passing of the years they find their proper places and relation to things and with the same mirage-like effect they grow in magnitude and splendor of great achievement. This recent developmental period in medical science, for instance, even now coruscates and is iridescent with glowing names. What shall we say of such immortal lights as Kassabian and Charles Lester Leonard, the x-ray pioneers of Philadelphia; of John Hall Edwards, the eminent radiologist of England; of Clarence Dally of the Edison laboratory, and of Radriguet of France, and a host of other brave men and true, who gave their lives in determining the efficacy of the Röntgen rays in medicine? What of Louis Pasteur, "the son of a French tanner, a chemist by education and training, the father of bacteriology, the discoverer of the effective method of combating infectious diseases, he who disproved the idea of spontaneous generation and laid the scientific basis for Lord Lister's aseptic surgery" (*Stockard*)? Huxley estimated that the money value of Pasteur's discoveries in anthrax alone saved the world in sheep and oxen enough to cover the whole cost of the war indemnity paid by France to Germany in 1870; and this to say nothing of his invaluable work in hydrophobia, whose terrors he has practically abolished for evermore. What of Lord Lister, the founder of asepticism and antisepticism in surgery which have vanquished the gravest enemy of surgical technic and practically abolished some of the greatest terrors of the surgery of the civil war period? What of Haeckel, the monist; of Huxley, prince of scientists; of Ehrlich; of Gorgas of yellow fever fame; of Smith and Russell? What shall we say of Walter Reed, the discoverer of the cause of yellow fever, in whose memory was founded by our government the great Walter Reed General Hospital in Washington, D. C., where it was my privilege to serve for some months during the recent war? What of Jesse W. Lazear and the other heroic physicians who braved the perils of the plagues of the earth and

solved the mysteries of their virulence but paid with their lives the penalty for their intrepidity? What of Eli Metchnikoff, the Russian zoölogist, who discovered "the phagocytic action of the wandering cells in the animal body and investigated the reaction of the organism to disease in the Institut Pasteur" (*Stockard*)? To him belongs the honor of demonstrating the great battle of the cells forever going on in our living bodies. What of Fritz Schaudinn, the young zoölogist, who first stained and demonstrated the specific spirochete (of syphilis) after others had sought it for years in vain and who investigated the ameba of dysentery and sacrificed himself when but little more than thirty-five in order to facilitate those investigations? Oh, no! The days of heroes and of moral and mental and scientific giants have not yet passed. We have them with us now. They labor among us often unseen or unnoticed, but they shake the scientific stage with their tremendous accomplishments. It is to their efforts, for instance, that is now due our knowledge of the action of rats, mice, flies, fleas, lice, mosquitoes and other useless vermin in the transmission and propagation of infectious disorders, as typhus fever, rat-bite fever and the various spirochetal diseases. As recently as June 7, 1919, the distinguished Surgeon General of the United States Army, Major General Merritte W. Ireland, in an address delivered at the Ninety-fourth Annual Commencement Exercises of the Jefferson Medical College of Philadelphia, enumerated some of the important advances in medicine made during the last two decades. Not by any means is the list complete, but even the non-medical listener here tonight cannot but be impressed by the notable scientific progress the Surgeon General has compiled. Listen, as I briefly rehearse his tabulation:

In 1898, Sir Ronald Ross demonstrated incontrovertably that malarial fever is transmitted by the *Anopheles* mosquito and thereby doomed forever one of the pests of the tropics and of the warmer portions of our own country. As a result of this discovery and the prophylactic measures which have followed, it is interesting to note that the total number of deaths from malaria in our army during the recent war was but 13. The expected deaths on the basis of the civil war malarial rate were 13,951, and of the Spanish-American war 11,317. The same year, 1898, Walter Reed of the United States army, Victor Vaughan of Ann Arbor, and Shakespeare of Philadelphia, proved that typhoid fever may be transmitted by contact and, in a certain percentage of cases, by flies. It was at Chickamauga Park during that year of the Spanish war that the millions of flies spread the fever among the troops with a resulting lamentable mortality. In 1917-1918, owing to the excellent sanitation practiced by Major Abbott, in the same park, where over 40,000 troops were encamped, scarcely a fly could be found, and typhoid fever did not exist—and to this I can vouch, for I was there and saw. Following Reed's discoveries it did not take long for the laboratory scientists to develop the antityphoid vaccines whereby typhoid fever is prevented as effectually as is smallpox by vaccination. In this connection it will be interesting to note some data prepared by Colonel Russell, of our army. Between September 1, 1917, and May 2, 1919, the average number of men in the field was 2,121,396. The total number of deaths from typhoid fever was but 213. Had the typhoid rate of the civil war prevailed, there would have been 51,133 deaths. Had the rate been that of the Spanish-American war, the number would have been 68,164 (Evans). Everyone knows that it is much more difficult to prevent typhoid fever in an army than it is in civil life because of the unavoidable pollution of the water supplies, the intense congestion of the camps and battle-lines, as well as the inevitable relaxation in sanitary matters among the men. As Evans has said, "so great are these difficulties that never in history have they been satisfactorily overcome, except in this war and in the Russo-Japanese war."

In the opening months of the twentieth century Walter Reed, Carroll, Lazear and Agramonte proved that yellow fever is transmitted by the bite of the *Stegomyia* mosquito, and another fell enemy of mankind was vanquished, soon to become an evil memory only. In 1900 Ashford discovered the presence of hookworm infection in Porto Rico, and in 1902 Stiles described the American parasite of the hookworm infection and traced its curious migration from the toes of those who went barefoot to their lungs and thence to the alimentary canal where the parasite finds its final lodgment in the body and produces the anemia and consequent laziness and inefficiency of its victims. His findings were still further demonstrated by Loos in 1904. In 1901, Dutton discovered the parasite of sleeping-sickness of the tropics and in 1903 Bruce proved that this disease was transmitted by the bite of the tsetse fly—and still another terror of the tropics was vanquished. In 1903, Metchnikoff proved the physiological relationship of the higher primates by inoculating the higher species of apes with the spirochetal (syphilitic) infection—to which all other animals appear to be immune. In 1904, Dutton discovered the parasite of African relapsing fever and in 1907 H. G. Novy found the parasite of the American variety, while in 1905, Schaudinn described the parasite of the great spirochetal disease of mankind (syphilis). This was quickly followed by the famous discovery of Wassermann in 1906, which Noguchi, the distinguished Japanese investigator of the Rockefeller Institute, modified and improved in

1911. In 1908, Harvey Cushing of Boston "produced the condition of infantilism experimentally in the dog; in other words, made an adult dog revert to an infantile condition"—a reversion of one of the greatest processes of nature, which Lord Kelvin in 1892 declared to be impossible. In 1910, Nicolle demonstrated conclusively that typhus fever is transmitted by the bite of the body-louse and thereby paved the way for the great and largely efficient prophylactic measures that were adopted by the armies of all nations during the world war. Today an energetic campaign is in progress to exterminate this repulsive vermin and thereby end for all time another dread pest, which has ever devasted the armies of the world. Three thousand British and American soldiers lie buried in Washington Square, Philadelphia, who died from the great typhus fever plague during the British occupation of the Quaker City—victims of this vile pest. In 1910 Flexner of the Rockefeller Institute experimentally produced poliomyelitis the cause of infantile paralysis, that dread of all mothers and a long step was taken thereby toward the mastering of this disease. The same year, R. G. Harrison grew nerve-fibers in an extra-vital culture, and another mystery of living nature was penetrated by the insatiable curiosity of man. In 1911, Rous proved that sarcoma, a malignant tumor of man and other animals can be transmitted by a filterable virus—only an additional step in the apparently endless and at present unsuccessful conflict which is being waged by man against malignant disease. The same year, Bass cultivated artificially the malarial germ, the plasmodium.

To this compilation may I add Colonel Russell's statistics relative to dysentery in our army during the great war? He found that the total deaths from this disease were 42, as compared with 63,898 for the civil war, and 6,382 for the Spanish-American war. Grouping the findings for typhoid fever, malaria and dysentery, the potential saving of life from these diseases during the late war was 128,754, as compared with the civil war and 95,595 as compared with the Spanish-Americn war (*Evans*). Could words speak more eloquently than these figures, or more effectively as a tribute to medical skill at this time, as well as a notable comment on the marvelous progress in medical science since the days of the civil war? Such is the incomplete list of great advances made in medical science, which General Ireland has compiled up to the beginning of the great war. It is a noble record, accomplished without the blare of trumpets or the noisy acclaim of the world—for it is ever so that the heroes of medicine work and achieve.

And then the storm burst. For almost fifty years the war-clouds had been gathering and now in the fulness of time the greatest autocratic military power the world had ever seen, inflated with pride and arrogance and swollen with egotism and the inculcated belief in its destiny as a world-saver and instructor, confident that it was composed of supermen, physically, mentally, spiritually; that power, treading ruthlessly upon all the laws of man and internationalism, of morality and decency, and of God Himself, trampled roughshod across Belgium with the nefarious purpose of entering France surreptitiously by the back door—and, incidentally, set the world on fire. At once, all lines of activity, save those of war and of medicine and surgery with their allied sciences, ceased while the nations of the world went about the almost superhuman task of destroying the monster of absolute monarchism.

To him who thoughtfully reviews the progress of medical science during the opening years of this century, as I have briefly noted it thus far, it would appear that much of it was providential in the light of that which followed. Had it not been for the discoveries which had robbed malaria, typhoid fever, lock-jaw, dysentery, yellow fever, hookworm infection and the specific diseases of mankind of much of their terrors, one would stand appalled and aghast at the mere thought of what might have happened to the millions of soldiers of all lands, to say nothing of the famished and insanitary populations of the war-ridden countries of Europe and Asia. As it proved, the work of these heroes of medicine and surgery found its supreme testing on the field of battle and in the hospitals back of the fighting-line and did not fail. Upon the substantial basis thus provided the medical corps of the world shouldered their herculean tasks and made good, to the credit and honor of the profession and to the general welfare of the peoples of the world. Glancing cursorily over the medical and surgical advances of the past five years (1914-1919), some salient and suggestive facts will be noted.

From the standpoint of the pathological laboratory, probably the most remarkable and startling development of the war was the wide-spread destructive action of the blood-dissolving streptococcus (*Streptococcus hæmolyticus*), which was responsible for most of the deaths resulting from pneumonia during and following the dreadful

epidemics of measles and influenza. And as yet, I regret to say, no serum or vaccine or antitoxin has been devised to successfully combat the pernicious action of this most virulent germ. We all realize, of course—as who does not?—the gravity of that terrible pandemic of influenza that rolled irresistibly over the land from the navy-yard at Boston harbor, where it started on August 28, 1918, until it reached the cost-line of the Pacific, carrying away in its devastating progress nearly 500,000 of our population; that same scourge which, in its passage around the world in less than a year's span, swept six million souls into eternity; but do we realize that the epidemic of 1918 was the worst influenza epidemic in history, as Vaughan and Palmer have noted? And this notwithstanding that "in the last 800 years there have been 28 pandemics or world epidemics and about 72 additional widespread and fairly distinct waves of the disease." More than one-third of the entire population of this country contracted the disease last year, and of those attacked, as I have already mentioned, nearly half a million perished. Vaughan and Palmer[1], writing on communicable diseases in the United States army, say that "the plague epidemic of 1665 in London killed 14 per cent of the total population. The yellow fever epidemic of Philadelphia in 1793 killed 10 per cent of the population. Third in severity was the influenza epidemic in 1918 at Camp Sherman, where 3.1 per cent of the entire population died in seven weeks from influenza and pneumonia. In the combined United States army camps during four months 1.5 per cent of the population died." This outbreak stands as fifth in rank in Vaughan and Palmer's list of deadly epidemics; but, as Evans has indicated, "none were listed by these investigators except epidemics in the better known parts of the world—regions where statistics are somewhat reliable and obtainable. The ranking would have been different had epidemics among the less civilized peoples been taken into account." In Philadelphia, the worst hit city in the country, the epidemic destroyed .77 per cent of the entire population in seven weeks; in New York, .39 per cent. The figures for the entire country are generally given as .45 per cent. The fatality rates were more than three times as high as in the epidemics of 1890 and 1891. Various statisticians are agreed that more people died from influenza-pneumonia in 1918-1919 than died from the same disease in all four of the years between 1890-1894 (*Evans*). About 84 per cent of all the deaths from disease in the United States army between September, 1917, and May, 1919, were due to influenza-pneumonia-bronchitis (*Evans*).

This most virulent form of pneumonia, in which the patients seemed to literally drown in their own serum, was, probably, the most terrible pathologic feature of the war-period. It was noted particularly during the great influenza epidemic of 1918 and after the measles epidemic in the army in 1917-1919. It is interesting to note, in this connection, what Vaughan and Palmer record as to contagious diseases in the army. They state that measles was 19 times as prevalent in our training-camps as in civilian life, and that the pneumonias were 12 times as prevalent in the camps as in the civilian population. Meningitis was 45 times more prevalent in the camps than in the civilian population; scarlet fever, 6 times as prevalent, and diphtheria twice as prevalent, while typhoid fever and its allied diseases, including dysentery, were negligible. Tuberculosis, on the contrary, was 13 times more prevalent among civilians than among soldiers. This was due mainly to the elimination of tuberculosis in the examination of the drafted men, coupled with the healthy outdoor life which the soldiers are compelled perforce to live. Here we have a virile argument in favor of universal military training.

So far as is known, the great war developed but two entirely new diseases. Trench fever first appeared among the English troops shortly after their entrance into Flanders. While not a fatal disease, it became so prevalent that it incapacitated a large percentage of the men, and therefore became a serious menace to the army. It was not until our own Research Committee, headed by Major Richard P. Strong, of our Army Medical Corps, in December, 1917, began an experimental investigation of this disease that its causation and pathology became known. This committee ascertained beyond doubt that trench fever is a specific, infectious disease transmitted

1. Vaughan and Palmer: Jour. of Laboratory and Clinical Medicine, July, 1919.

by the bite of the body-louse. This was an important finding, for the disease was causing a tremendous loss of man-power not only in the British army, but in all armies engaged in the war. At once an active campaign was instituted for the destruction of vermin and by the time of the armistice the results of this prophylaxis were beginning to be felt. Today, energetic steps are being taken the civilized world over to destroy vermin of all kinds, including rats, mice and lice.

Lethargic encephalitis, popularly known as "sleeping sickness," first appeared, according to Flexner[2], in Vienna and neighboring parts of Austria, in the winter of 1916 and in the United States in the winter of 1918-1919. It is a disease affecting especially the gray matter at the base of the brain and the tissues of the spinal cord. It may produce paralysis of the ocular, facial and other muscles. The disease occurs with extreme abruptness and shortly presents the most characteristic symptom, marked lethargy or drowsiness, which is progressive in character and present in about 80 per cent. of the cases. This stupor may persist for a few days only or it may last for months. In patients who recover, the return to clear mentality is, as a rule, gradual. The disease occurs at all ages and is about equally common in both sexes. It has a high mortality (20-40 per cent). It is most prevalent in the winter season. It is undoubtedly infectious in nature probably through the secretions of the nose and throat, but nothing whatever is known as yet as to its precise bacterial causation.

While it is true that trench fever and "sleeping sickness" comprise the only new pathological entities developing during the war, and were thus added to our knowledge of the diseases that mankind is heir to, there was much that made for real progress in all the various branches of medical and surgical science during that epochal period. Time would fail me were I to speak in full of the advance made in the management of shell-shock, a condition which we now know is nothing more nor less than a manifestation of grave hysteria and a sign of a depraved nervous system; of the wonderful results following the paraffin treatment of burns; of the development of the therapeutic management of gassed patients; of the excellent clinical results obtained after nerve-splicing and nerve-transplantation for the relief of traumatic paralysis; of the advances made in the management of surgical shock; of the new uses for physical methods of colored lights, and of the marvelous development of the x-rays in so far as their practical application is concerned. One great lesson was learned by all who had the privilege of active service in the armies of the world, namely, that war surgery differs in no respect from ordinary civil surgery in so far as the general principles of technic and of asepsis and antisepsis are concerned. Only in the multiplicity of the wounds encountered and in their unusual sites and characteristics is a difference to be noted. Thanks to the labors of Dakin in the chemical laboratory and to the practical application by Carrel of the Dakin fluid to poisoned and unclean wounds of all kinds, an astonishing amelioration of septically infected wounds was noted. With the proper Carrel-Dakin technic aided by the trolley-system of suspending the affected limbs, pain, suppuration and swelling fled as if by magic, and in a few hours after the institution of the method those who had been rolling and groaning in agony had their wan and peaked faces wreathed in smiles of wonder and gratification. It was my great privilege to see and use this method at the Rockefeller Institute of New York City and in the septic wards of the Walter Reed General Hospital at Washington, D. C.

This advance in the treatment of sepsis is, as Armstrong[3] has indicated, but one instance among many of the manner in which "the war has brought into closer daily association the surgeon and the scientific workers in the scientific departments closely allied with practical medicine and surgery. Chemists, physiologists, bacteriologists, biologists and pathologists have been brought into intimate association with the problems of the bedside. Many have for a long time felt that in our medical schools and hospitals there has been too great a dissociation between the primaries and finals, between the workers and teachers in the scientific and practical subjects. It must always be remembered that the medical work has been performed by the medical profession, and after the war they will doff their military dress and resume civilian practice enriched by their varied experiences.

2. Simon Flexner: Jour. A. M. A., Vol. LXXIV, March 27, 1920.

3. Armstrong: The Canadian Association Med. Jour., 1919.

The lessons learned during the war will be applied after the war." Armstrong believes that one of the most important and far-reaching results of the war will be a change in the methods of medical education. What the more immediate changes may be it is difficult to predict, but that both undergraduate and graduate studies will be differentiated more in the future than in the past is highly probable. "The same factory cannot turn out Ford and Rolls-Royce cars, nor can the same school turn out general practitioners, physiologists, biologists and chemists with economy of time to all. The undergraduate teaching best adapted to one intending to devote his life to preventive medicine is not necessarily the best education for the man preparing for curative medicine."

I think you will agree that this survey of the subject assigned to me would not be complete without a brief reference to the reconstruction department of the United States army. According to Dr. Frank Billings,[4] the policy of physical and mental rehabilitation of disabled soldiers, sailors and marines, was formulated in the office of the Surgeon General of the army in August, 1917, was applied in seven hospitals early in 1918, and finally approved by the War Department on July 29, 1918. The object of this department is the restoration of these physically and mentally incapacitated men to as perfect a condition as possible. The work is defined as "continued treatment, carried to the fullest degree of maximum physical and functional restoration consistent with the nature of the disability." To this end all known measures of modern medical and surgical management have been applied, including mechanotherapy, electrotherapy, massage, reconstructive wound-healing, mental occupation for the cure of shell-shock, and the teaching of various arts and trades to the disabled soldiers. The educational program embraces courses in technical, agricultural and commercial subjects. Says Dr. Billings: "Many disabled soldiers who were qualified aided in the training of their fellow patients. Civilian women worked as reconstruction aides in giving courses in the arts and crafts and commercial studies. A director of sports, games, gymnastics and military drill supervised these branches, in coöperation with the American Red Cross, Young Men's Christian Association, Knights of Columbus, Jewish Welfare Board and Salvation Army. Special buildings, gardens and fields have been utilized for the purpose of training convalescents in workshop and academic courses and in agricultural pursuits. Equipment for shops, schools, physiotherapy and gymnasiums has been supplied. Needful books have been furnished by the American Library Association." At the height of this work forty-seven reconstruction hospitals were functioning. This number was later reduced to forty-four general and base hospitals in which the work was carried on and this number was gradually reduced as the number of patients diminished. After July 1, 1919, the work was concentrated in nineteen hospitals, and today there are only fourteen or fifteen of these in active operation. After the signing of the armistice convalescent camps were established in various parts of the country where the soldiers received the final hardening and curative processes by means of setting-up exercises and military drill. Necessarily, this course of treatment involved in many instances a prolonged retention of the soldiers who naturally chafed under the restriction and longed to return to their homes. One can sympathize, therefore, with the colored soldier who accosted a Red Cross visitor in one of these Army Reconstruction Hospitals with the query: "Say, boss, what is they keepin' me here in this hospital fer—a souvenir?"

The results of this unique move in the history of war-medicine have been gratifying to the utmost. Dr. Billings states that "in spite of almost insurmountable difficulties it is believed that physical reconstruction of the soldiers has been of the greatest value in maintaining discipline, in the promotion of morale, in the diversion of the soldier's mind from his disability, in the arousing of his interest in education which would overcome his handicap and in securing a physical and functional restoration of power. Often the patients have been enabled to take up a more lucrative profession than that which they held formerly, and the men have been stimulated to take further training with the Federal Vocational Board after discharge from the army."

Such briefly is a resumé, necessarily fragmentary and incomplete, of medical and surgical progress during the period of the world war. Enough has been mentioned, however, to prove that the

4. Frank Billings: Jour. Am. Med. Assoc., July 12, 1919.

medical profession has not lain dormant during these cataclysmic years but has nobly upheld all its traditions and has been alert and active, coöperating with its sister sciences for the welfare of the race. It is too early as yet to fully realize the value of the progress that has been made, but that it has not been inconsiderable and negligible even a cursory glance will convince.

And now, ere I finish, may I be permitted to dream for a moment? We are at the close of the greatest war that history has ever recorded. The smoke and grime have not yet cleared away. Nations are still fighting and others are quarreling. The earth still shakes and the air rumbles with the sullen roar of the iron-throated voice of Mars. But man is tired of it all and is turning longing eyes toward the quietness of "peace on earth and goodwill toward men." Is history about to repeat itself? Are we on the eve of a great literary renaissance, such as that of the fifteenth century and that which followed the war-storms that convulsed Europe in the early portion of the sixteenth century? Out of that bloody turmoil emerged the glorious Elizabethan period of literature marked by famous names—Spencer, Shakespeare and the rest. And out of the roar and slaughter of the Napoleonic wars sprang the still greater literary period—the Victorian era of wonderful and inspiring literature which, save for a few rare volumes and still rarer incunabula, practically comprises the libraries, public and private, of today. This era, as we know, gave way to the mechanical and scientific period which persisted up to the breaking out of the war and was characterized by a notable dearth of good literature. Now, as the smoke and din and havoc of this last great Teutonic eruption, the greatest and most formidable of them all, are sullenly dying away in the narrowing vista of the past, will a new and it may be even greater literary period slowly arise from the ashes, the phoenix of a happier day for all mankind? Who can say? This we know, that it has ever been so. It seems to be the natural reaction from disorder, convulsion, pillage and death to the peace and quiet of the library and the fireside. Those of us who survive into the decades to come may gloat over the literary marvels of famous men now unknown and unread. It may be the Georgian or post-Georgian period of brilliant literature is at hand. If so, may it be our blessed privilege to revel in it—at least for awhile.

THE PHYSICIAN AS A CITIZEN*

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CHICAGO

War upon the "Intellectuals" is not confined to Russia nor yet to the battle-scarred nations of Europe. Bolshevistic manifestations are not entirely wanting in our own, the most favored nation of all times. The traditional premium on brains has become largely a myth. The hod-carriers' union commands more consideration than does the County Medical Society.

A carpenter's income based upon an equipment of a modicum of training together with an armamentarium of a saw and a hammer puts to shame the pecuniary compensation of a college professor. The profession of medicine is coming to be more and more discredited as a means to a decent livelihood. Laws discriminate against physicians. In the settling of an estate a long list of preferred claims takes precedence over bills for medical services. In personal injury cases a claimant may not settle without the consent of his attorney but the laws afford no such protection to his physician.

In industrial cases the law confers upon the employer the right to select the physician, withholding from the injured employes their natural right to have a voice in the selection of the medical attendants into whose hands their welfare is committed.

State officials are seeking, through annual re-registration, to number and tag the physicians in order that the profession may be still further subordinated and subjugated and the aforesaid state officials become correspondingly more influential and more important politically.

"Uplifter" societies are everywhere combing the community for charity work which physicians are expected to perform. Medical relief to the poor is directed by laymen on salary, while the work is done by physicians gratis.

Educational prerequisites to the practice of medicine by reputable physicians now cover nineteen years of instruction and training, whereas

*Read before the Tri-State District Medical Association, Oct. 4-7, 1920, Waterloo, Iowa.

quacks and charlatans are permitted greater privilege with next to no educational or moral qualifications; and one particularly pernicious group is specifically exempted from all supervision and restriction, while its own self-imposed conditions are limited to these, namely: A mental twist and an insane desire for money.

Public officials give ear to the voice of organized labor but frown down the solemn declarations and formal requests of organized medicine. The union man who patronizes only union shops and uses only union-made materials never thinks to inquire as to whether or not his physician belongs to the medical society.

Always and especially in its times of peril the nation depends vitally upon its physicians, and always and especially in its times of peril, the nation's trust and confidence in its physicians have been justified by their achievements, yet the national congress passes laws oppressive to physicians and favorable to the vendors of patent nostrums.

In many ways the physician is the most conspicuous and the most important citizen in every community, yet in other ways, and these other ways include the conditions which dominate his economic affairs, the physician is the *least influential* citizen in every community. That this is true is a misfortune for the general public as well as for the physician. All citizens share the benefits which medical science has contributed to the welfare of mankind. Whenever the proper influence of scientific medicine is curtailed, to the same degree the welfare and safety of the state suffer impairment. In times of war no other class of citizens in the percentage of its numbers or in the efficiency of its service to country equals the medical profession. In times of peace no other class of citizens counts for so little in the everyday affairs of men.

Law-making bodies pay scant attention to sets of resolutions adopted by medical organizations in annual session. No political consideration is shown to expressions of sentiment unless such expressions of sentiment influence elections.

The medical profession lacks solidarity in organization and breadth in purpose. No other class of citizens is qualified to deal with health problems, no other class of citizens should be permitted to dominate health legislation.

The injustices, inequalities and discriminations which political bodies have contemptuously heaped upon the medical profession and which have reacted hurtfully upon the public will be promptly and fully corrected just as soon as the medical profession calls into activity its potential political power. By political power is not meant ordinary partisan politics. The potential political power of the medical profession is neither republican nor democratic, nor does it reside in a new party, but is a moral force to be exerted regardless of partisanship. This wholesome political influence must be exerted by physicians through organization. The traditions and ideals of the profession will not be compromised nor abandoned—rather will a broader and more lofty purpose be attempted.

The advent into the political field of so large a body of citizens characterized by the high degree of culture and intelligence which physicians as a whole possess, will tend to eliminate certain elements that should have no part in public affairs. The medical profession is lacking in moral courage if it continues to surrender to a lower stratum of society the high privilege of controlling the momentous affairs of government.

The well-known hazards of the physician's life in times of peace, as well as in times of war, are conclusive proof that physicians are not wanting in bravery, in fortitude, nor in heroism.

What, then, is the physician's duty as a citizen for his own sake, for the sake of his family, for the sake of his profession and for the sake of society? The plain duty of the physician as a citizen is to assert a broad citizenship, which must include a wholesome and effective political influence. This political influence, in order to be wholesome, must not be partisan. This political influence in order to be *effective* must be exerted through medical organization and above all *it must be carried to the polls.*

The time is ripe for a movement of this kind. Legislative ills are pandemic. Self-preservation demands that the "rank and file" of the medical profession wake up—and when the awakening does occur the way of the quack, the charlatan and the medical parasite in religious cloak will indeed be hard.

Then will come a single standard of qualifications for practicing the healing art. Then will the health and lives of human beings receive at least as much consideration at the hands of state legislatures as is now accorded to the health

and lives of hogs and cattle. Then will the health and lives of working men rank in importance with the health and lives of their employers. Then will medical charity be dispensed by justly compensated physicians. Then will come an end to the wholesale sacrifice of the lives of helpless little children upon the altar of sordid greed—under the cloak of religion. Then will murder by neglect through fanaticism be recognized as such in Wisconsin, in Illinois, and in Iowa, as it is now recognized in New Jersey.

And through it all, and above it all, the medical profession will have advanced on its way toward a higher and a better citizenship.

Note: See Organization Plan on page 446.

A PROTEST AGAINST ALLOWING HYSTERIA, HYPOCRISY AND COWARDICE INFLUENCE THE SETTLEMENT OF MEDICAL QUESTIONS

Effects of Alcohol

Dr. C. S. Potts, in the New York Medical Journal, April 3, 1920, while not attempting to say anything good of the use of alcohol as a beverage, endeavors to show that statements of its bad effects on the human race are exaggerated. He also protests against allowing hysteria, hypocrisy and cowardice to influence the settlement of medical questions. It has long seemed to him that if alcohol was nearly as potent a factor in causing mental and physical deterioration as is claimed by many, by this time the world should be peopled almost entirely with physical and mental weaklings. Therefore, the world, instead of progressing as it has, should have gone backward, and the average length of life should be much less in spite of the increase in knowledge and skill in the treatment of disease. Potts believes that most of the indictments of alcohol are based on the results of laboratory work and the study of statistics, and that such evidence is often fallacious and not consistent with actual experience. Potts gives biblical, historical and biographic references to prove his point that alcohol does not cause mental and physical deterioration. Speaking on the effects of alcohol in those who do not use it and do not wish any one else to do so, Potts claims that many such are undoubtedly mentally peculiar. They exhibit a form of bolshevism in that they want to rule or ruin. They alone are right. In furtherance of their views they believe in false statement, vilification, and slander of those who do not agree with them. They refuse to believe conclusive evidence (which according to an old definition means insanity). They advocate confiscation and destruction of legally owned property, illegal exercise of police power, and they tempt people to do the things they protest against, so that they can show how wicked the world is. Potts is of the opinion that this intolerant exhibition of superiority deliberately shown by this extreme section is based on a form of egoism; it is a consequence of a psychologic self-gratulation and self-esteem which borders on an obsession and is regarded by some authorities as pathologic. The burthen of Potts' paper is summarized as follows: That alcohol is not necessarily a deterrent to good work and to the attainment of greatness; that the world is not going backward in spite of its long continued use of alcohol, and so far as its use is concerned is in no danger of doing so; that every one who uses alcoholic beverages is not per se a drunkard and unable to do his share of the world's work. Potts does not dispute that it may be a cause of harm, both from the medical and social point of view, but it also, from the former point of view, may be an agent for good. He believes that legislation influenced by perversion of facts, hysteria, hypocrisy and cowardice is of more danger to the country than alcohol. There never was a time when common sense was more needed and never a time when it was less prevalent.—*—J. A. M. A.*

STATUS OF THE TREATMENT OF LEPROSY

"The following conclusions may be drawn from our recent experience in the treatment of leprosy:

"1. The intramuscular injection of the ethyl esters of the fatty acids of chaulmoogra oil usually leads to a rapid improvement in the clinical symptoms of leprosy. In many cases the lesions disappear, except for scars and permanent injuries, and the leprosy bacillus can no longer be demonstrated.

"2. When combined with iodine, the fatty acids of chaulmoogra oil and their esters give good results; but there is no adequate experimental proof that this addition of iodine causes any increase in the effectiveness of the materials used.

"3. All of the available evidence obtained from the use of fractions of the fatty acids of chaulmoogra oil indicates that the therapeutic action is due to one or more of the fatty acids of the oil or to some as yet unidentified substance associated therewith. The various methods of fractionation heretofore employed have failed to demonstrate the active agent.

"Although conclusive evidence is not at hand, it is probable that the oral administration of chaulmoogra oil derivatives is of minor importance compared with the injections.

"5. In treating leprosy, it is importart to make use of all auxiliary agencies to build up and maintain bodily vigor.

"6. Hypodermic injections of the ethyl esters into leprous nodules are followed by marked swelling with ultimate recession of the lesions. This is a valuable auxiliary treatment for especially resistant lesions.

"Summary.—It has been sufficiently established that chaulmoogra oil contains one or more agents which exert a marked therapeutic action in many cases of leprosy. We can not say as yet that the disease is cured, since we have no test adequate to establish such a verdict. Whether or not the apparent cures are real and permanent, it is evident that we have a valuable agent at our disposal in the control of the disease."—McDonald & Dean, *Public Health Reports.*

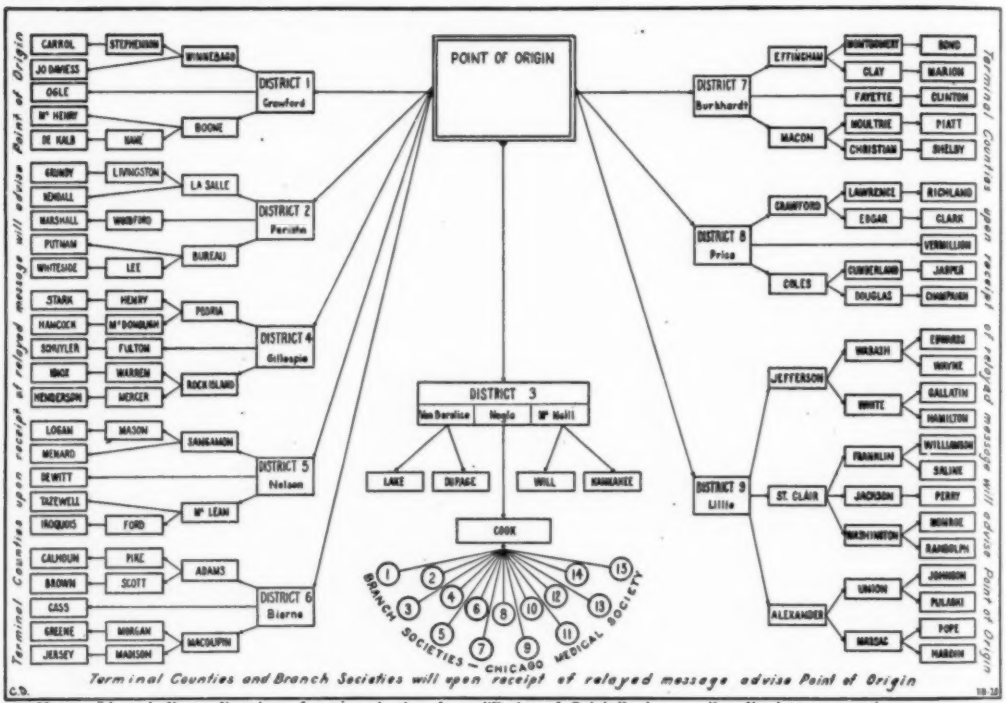
ORGANIZATION PLAN FOR COMMUNICATION BETWEEN COUNTY MEDICAL SOCIETIES

County and State Medical Societies and the American Medical Association are very well as media of scientific intercourse; as a civic force the plan, herewith presented, of inter-communication will make possible the dissemination of information on pernicious legislation, such as compulsory health insurance, birth control, coercive medical re-registration, State medicine, drugless therapy, chiropractic, etc.; for the promulgation of data in regard to constructive health legislation for the better care of the insane, defective and epileptics, diagnostic centers controlled by medical scientists, not political opportunists; and particularly as a channel of education of physicians, dentists and druggists in their rights and duties as citizens and as a counter force to the "uplifters" and false doctrinaires who have been exploiting the medical profession regardless of equity.

THE MARINES have a slogan, "If you don't know, you get killed."
Poor Richard had a proverb, "Never put off 'till tomorrow what you can do TODAY."

"A CHAIN IS AS STRONG AS ITS WEAKEST LINK." DON'T BE A MISSING LINK! DISTANCE MEANS NOTHING TO A POSTAGE STAMP.

A chat, face to face, or "over the 'phone," lends the touch of your own personality to this CAMPAIGN OF EDUCATION to safeguard our state, our people, our professions and ourselves from the menace of HYSTERIA in legislation and to secure SANE LAW for public health and the personal well-being of our citizenry.



Note: Lines indicate direction of communication from "Point of Origin" via councilor districts to counties.

The diagram shows the plan of organization adopted by the Illinois State Medical Society. It is based upon the Councilor districts. The "Point of Origin" or headquarters communicates with every County in the State through the lines shown in the drawing.

Every County has its committee of *one* whose duty, in part, is to relay whatever message he may receive to the committee of *one* in the Counties assigned to him.

A message from headquarters started out in nine different directions first reaches the nine councilor districts and is there by this chain relay system promptly relayed to every one of the one hundred and two counties in the State.

The whole State through this *State Committee* is thus prepared to deliver a concerted simultaneous effort for or against pending legislation. In order that headquarters may know that the system is in working order, the peripheral counties are required to repeat all messages back to the point of origin.

A message may originate at any point in the chain—that is in any county and in due time will reach the point of origin or headquarters from which point it will be forwarded along the same lines as if it had originated at headquarters.

The advantage of this *complete organization* becomes apparent at once. A "live wire" in every county knows what to do and when to do it. When vicious legislation is threatened every member of the legislature will be able to ascertain the attitude of his constituents, if he wishes to know how the people back home stand on the question. A week end reception committee of his neighbors can help him make up his mind how to vote in order to further the best interests of the people he represents.

This plan has proven effective in New York—see a communication from Dr. J. J. A. O'Reilly in the ILLINOIS MEDICAL JOURNAL for July, 1920. This plan will certainly improve matters in Illinois where a handful of well organized quacks have pretty much had their own way in matters of health legislation.

ILLINOIS MEDICAL JOURNAL

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State society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

Send original articles and all communications relating to advertisements to Dr. Charles J. Whalen, Editor, 4647 Dover Street, Chicago.

Membership correspondence to Dr. W. H. Gilmore, Mt. Vernon, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 927 Lawrence Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

NOVEMBER, 1920

Editorial

REPUBLICAN OR DEMOCRAT — PHYSICIANS SHOULD TABOO PARTY POLITICS

Doctors should be more patriotic than partisan at elections. Doctors, like all others, should first of all vote as Americans, passing upon the issues that come before the American people solely with regard to the question whether they served the highest aims and ideals of Americanism. It is possible that in some elections party and patriotism may appeal to the same loyalty; this is especially true in national affairs. At other elections a strict party vote in some instances can be construed as nothing less than disloyalty to the public as well as to the profession.

Self-preservation is one of the first laws of nature. Medical men must stand together. The organized profession must have a clear-cut platform on things medical and must not hesitate to back it whether it is unpalatable to either of the old parties and their candidates. In the new order of things there is no longer to be considered the question of party brand. The slogan for the future should be: Does the candidate stand for radical medical legislation which is always un-American, destructive alike to the interests of the people and the profession. The editorial in this issue on the California and Oregon situation shows the general trend of the times in medical legislation. We ask you to read it carefully.

A candidate's views on national issues by no stretch of the imagination can be construed as fitting or unfitting him for office in a municipality or state or for membership in his respective legislature, but it is of vital importance to the people and the profession what views he holds on questions like the following:

Compulsory Health Insurance. (Medicine subordinated to politics.)

State Medicine. (Medicine degraded.)

National Socialization of Medicine. (Medicine demoralized.)

Coercive Re-registration. (Judicial power of revocation without judicial responsibility.)

Drugless Therapy. (Chiropractic—57 varieties of charlatans.)

Administrative. (Tin badge not judicial warrant for right of search; alcohol and narcotics.)

All these are issues that reach into every home in the land, issues that enter into the daily life of man, woman and child and touch every human activity.

They group together into one great issue, which is: Do we go forward or do we go backward?

The welfare of the profession and the masses

of our people is knitted and woven into the fabric of the campaign against bolshevism and destructive foreign propaganda financed and fostered by agents of destruction.

Forces of reaction are making every effort to defeat the forces that stand for progress and for justice, and that hold forth the best hope for equal opportunity in our country.

The ideals for which we strive are not impossible of accomplishment, if we will wage a constructive fight against the election of any candidate for the legislature or for other office who is in sympathy with destructive propaganda.

To substantiate our contention we point to results obtained by the Professional Guild of Kings County, New York. This is an organization of physicians, dentists and pharmacists into a compact professional protective association, with working committees in each assembly district.

In this organization personal political preferences are forgotten, the three professions directing their fire against all candidates, democrats and republicans alike, who express themselves in favor of compulsory health insurance and allied bolshevik schemes or who refuse to make known their position on these questions.

The physician and dentist in contact with his patient and the pharmacist with his customer, urge them in their own interest to aid in conserving the higher professional standards and professional efficiency of the doctor, dentist and pharmacist by voting against the candidates who favor such schemes as the guild may determine as obnoxious.

As a result of this concerted campaign twenty or more candidates unfriendly to the three professions were defeated in New York last year.

The doctors in Sangamon County, Illinois, are in the present campaign operating under the new slogan "Physicians should taboo party politics." The Sangamon County Medical Society in their fight on the republican candidate for coroner (a Christian Scientist) have issued a card containing educational data, the headline of the same being "Republican or Democrat: We ask you to vote for the Democratic candidate for coroner." The doctors have entered into this fight with the righ spirit. The Republican members of the society are putting forth their utmost energy to defeat the candidate whose faith teaches there is no such thing as disease and death and who for this reason is unfit to sit as final arbiter in cases where the cause of dissolution is in question.

IS THE MEDICAL PROFESSION BEING AGAIN DOUBLE-CROSSED BY THE OFFICIALS OF THE A. M. A.?

A story is told of a lawyer who wanted to get a witness squarely on record on the subject of miracles. Said the lawyer, if a man falls from the roof of the Masonic Temple, strikes the ground, gets up, dusts his clothes and walks off unhurt, what would you call that? "An accident," was the quick response. But, persisted the lawyer, if he climbed up the roof a second time, fell off, struck the ground and got up unhurt, what would you call that? "A coincidence," was the reply. But, urged the lawyer, if he went up a third time, fell off the roof, struck the ground and arose unhurt, what would you call that? "A habit," retorted the witness, and the lawyer gave it up.

When a chairman of the council on Health and Public Instruction of the A. M. A. appointed as executive secretary of a committee to study impartially and report on Compulsory Health Insurance an advocate of the plan for over a dozen years, some were charitable enough to call it an accident. When a second chairman continued to send out the propaganda of this executive secretary after he had been dismissed, some still charitably inclined thought it might be a conincidence. But now comes along another chairman who is preaching the beauties of the twin sister of Compulsory Health Insurance "Yours for health—State Medicine," we feel that it has become a habit with these chairmen of the council.

Dr. V. C. Vaughan, Dean of the University of Michigan Medical School, and chairman of the council on Health Public Instruction of the A. M. A., can not say, as did his predecessors, that the House of Delegates had taken no action on the subject. He knows the character of the resolution adopted at New Orleans, he knows the feeling in his own State of Michigan as shown in the resolution condemning Compulsory Health Insurance, State Medicine and kindred schemes; he knows the character of the report and the resolutions of the Michigan committee on civic and industrial relations and he knows that the rank

and file of physicians are bitterly opposed to the measures he is advocating.

When he arose at the annual meeting of the Michigan State Society last Spring and said that he was a failure as a practicing physician, men thought he was overmodest. When he added that real medicine is confined to preventive medicine, they thought perhaps he was not quote so modest and when he stated that the way to bring the boys and girls back in droves to the farm was to establish a hospital at every cross roads, they stopped thinking and just wondered.

We do not question Dr. Vaughan's right to his personal opinion on this subject of State Medicine. It is his right and his privilege to think that practice of medicine is a waste of time and folly, but as chairman of the council on Health and Public Instruction of the A. M. A. he has no right to take a position which is diametrically opposed to the stand of the House of Delegates; as chairman of that council he is not privileged to preach a doctrine to which the overwhelming majority of the profession (to quote Dr. F. R. Green, secretary of the council) are opposed. If he is so firmly wedded to his beliefs in the saving grace of State Medicine, it is Dr. Vaughan's duty as it should be his privilege to resign from the chairmanship of the Council on Health and Public Instruction. If Dr. Vaughan can not see the light, it should be the duty of the Board of Trustees to ask the gentleman for his resignation and if the Board of Trustees have not red blood enough in their makeup to do so, it is then the duty of the House of Delegates to elect new trustees who are in touch with and have some sympathy for the rights of the profession at large.

It is time the rank and file of the American Medical Association asserted itself and cease permitting its appointees, however high their rank or however high their aspirations (though it be the president's cabinet) to preach doctrines that will place the medical profession in bondage.

If things do not take a turn we will have a revolt in the ranks of physicians. The rank and file are sore; sore at the leaders; sore at the policy of their journals. If men who are unafraid, men with vision, men with the sense of justice and the eternal fitness of things do not come to the front we can see the decline and fall of the great American Medical Association. This may sound a little strenuous but it is true nevertheless.

As we said in a previous issue, if the A. M. A. does not at once disassociate from the management or direction of its committees, the men who admit they have been failures as doctors, the soviet government propagandists, the practice of medicine by university advocates, and the other fifty-seven varieties of near doctors, and appoint in their stead men who are closely in touch with the needs of the profession, the officers are not fulfilling their duty to the membership.

Our familiarity with the sentiment of the profession throughout the United States prompts us to say that the rank and file of physicians of this country are determined to make the A. M. A. an organization on the Lincolnian lines "of the profession, for the profession and by the profession" or, to paraphrase Lincoln's words, "For the people, by the people, that the A. M. A. may not perish."

PRESIDENTIAL CANDIDATES AND THE MEDICAL PROFESSION

In order that the medical profession might be correctly informed as to the attitude of the presidential candidates on matters of vital importance to the health welfare of the people as well as to ascertain the disposition of the candidates towards Health Insurance and other socializing schemes, we wrote the secretary of the Ohio State Medical Society early in July for data along lines mentioned.

July 16, 1920.

To the Editor—Replying to your inquiry concerning the presidential candidates on Compulsory Health Insurance, State Medicine and other radical proposals, I believe it can be safely assumed that neither of the candidates would personally advocate anything as radical as State Health Insurance. After enumerating the relationship of both candidates with members of the medical profession, the letter wound up by saying "I am quite sure that the gentlemen named will use their influence to prevent Compulsory Health Insurance or measures of similar intent."

Lulled to a feeling of security because of the contents of this letter, nothing further was done in the matter until September 18, when a letter touching upon these vital questions was sent to both candidates, together with several copies of the ILLINOIS MEDICAL JOURNAL containing several editorials bearing on the same subject to

which, under date of September 21, the executive secretary of Governor Cox simply acknowledged the receipt of the letter and Journals.

Under date of September 22, Senator Harding replied as follows:

To the Editor: I have your letter of September 18, noting the sending of the copies of the Illinois Medical Journal for March, May and June.

I shall be glad to read the editorials to which you direct my attention when these numbers come to my desk and when my somewhat crowded time permits.

In the meantime let me say that with a purpose which you avow of opposition to the extension of autocracy and bureaucracy I am in very hearty sympathy.

Very sincerely,
W. G. Harding.

Nothing further was heard from either candidate until October 20, when Dr. H. J. Achard, associate editor of *Clinical Medicine,* wired both candidates for the presidency regarding their position on the question of Compulsory Health Insurance and allied dangers. Unfortunately, Senator Harding being away from home, did not act on the inquiry. Governor Cox, however, replied by night letter as follows: "I strongly favor a plan of health insurance and am working to that end in our State. Have caused an investigation to be made so that the legislature may act with complete information. It has also been my policy to give full recognition to the ethics and needs of the medical profession in so far as contact with the State government is concerned."

Editorial *Clinical Medicine,* November, 1920.

We are sorry that the matter of ascertaining the attitude of the candidates was not started sooner and that the atmosphere in regard to these important problems was not a little more clarified.

Next time, perhaps, the medical profession will be thoroughly organized so as to more effectively wage a campaign for or against certain candidates.

GUBERNATORIAL CANDIDATES AND THE MEDICAL PROFESSION

Immediately following the September primaries we wrote the three principal candidates for Governor—James Hamilton Lewis, John Maynard Harlan, and Len Small—under date of October 1, as follows:

Dear Sir: As a candidate for Governor we feel you are interested in the public health problems of the State of Illinois.

If you care to express your attitude on things medical the columns of the ILLINOIS MEDICAL JOURNAL are open to you.

Thanking you for your kind consideration of the matter.

Very truly,

To this communication neither Mr. Harlan nor Mr. Lewis saw fit to reply up to the time of going to press for this issue. On the other hand Mr. Small, under date of October 15, sent us the following letter and statement:

Kankakee, Ill., October 15, 1920.

To the Editor: Replying to your letter of the 1st inst., I enclose herewith a statement signed by me and addressed to the doctors of our State, which I would be very glad to have you publish in the columns of your Journal.

Thanking you for the opportunity thus given me for expressing my views, I am

Yours very truly,
Len Small.

To the Doctors of Illinois: In view of my candidacy for Governor I am sure that every doctor in our State will be interested in knowing my position on certain questions which intimately affect their great profession.

Having been reared in a medical atmosphere, my father being one of the early graduates of Rush, I believe I have a sympathetic appreciation of the problems and perplexities which confront the medical profession. I am in favor of the following policies, to be effective in the event of my election:

1. Maintenance of all institutional, public health, medical and nursing services at the highest point of efficiency consistent with public welfare and the rights of the profession; freedom from embarrassments of political influence; maintenance of standards which will inspire public confidence, assure co-operation of the several professions concerned, and command respect of the progressive states;

2. Administration of the several state departments dealing with medical, nursing, institutional and health services in such manner as

to assure harmony and co-operation between all concerned;

3. In determining policies affecting these services I shall consult and advise with all interested organizations and individuals so that these policies may be in accord with scientific practice and the best interests of the people; I shall welcome suggestions from all;

4. A reasonable degree of decentralization of federal and state administration, pledging myself to support legislation to this end. As an advocate of home rule I am naturally opposed to any attempt of the federal government to exercise public health functions which properly fall within the police powers of the State;

5. Opposition to present attempt of the Federal government to apply war-time powers and regulations to peace conditions;

6. Opposition to all radical medical or social measures that violate individual rights and endanger public health and welfare;

7. Equal requirements for the exercise of equal privileges and special privileges for none;

8. Factional, sectional, individual or political influences *will not* be permitted to interfere with efficient administration or the best interests of the State as a whole.

I have been honored with the Republican nomination for Governor. If elected, I will have no enemies to punish. I promise a square deal to all. My greatest ambition as Governor will be to give an administration which will be recognized *throughout* Illinois and the nation as second to none in points of efficiency, economy and constructive accomplishment.

May I count on your active support?

Respectfully,

Len Small.

SOME PHYSICIANS FIND A "HOLIER THAN THOU" CODE OF ETHICS A VERY COMFORTABLE STORM SHIELD

According to the Century Dictionary "ethics" is the doctrine of man's duty in respect to himself and the rights of others. Is it not time that some of the "Holier Than Thou" in the medical profession get down out of the clouds and take their place among men and in the future apply the golden rule? We believe with Mr. Lincoln "You can't fool all the people all the time," and in the long run right prevails.

There is a class of men in the medical profession who assume the position that the "king can do no wrong"—that the code of ethics was intended for the other fellow. This attitude on the part of some self-styled leaders has become so obnoxious as to be a menace to the unification of the doctors of America, a situation vitally essential for safeguarding the interests of the profession, and to protect it from complete emasculation and from being taken over hook, line and sinker, by the State in a general scheme of socialization.

The staff of one of the Chicago hospitals has built up an unenviable reputation for unscrupulously purloining patients from their fellows. Indeed, so notorious has this institution become that the practitioners in the section in which the hospital is located zealously refrain from calling into consultation members of the staff. As a very prominent physician truthfully stated, the reputation of this staff is such that it made possible the building and the subsequent success of a certain other hospital.

Eminent doctors high in the councils of our great national organization, it appears, are not immune from violating the so-called code of ethics. Recently our attention was called to a case where a very eminent surgeon was attending a seriously sick patient. The family suggested having the opinion of another doctor, to which the attending surgeon consented, and he was handed a list of six surgeons from which to select a consultant. The attending surgeon, thinking he was doing a favor to a certain one of the group, suggested his name to the family. The consultation was held and, much to the surprise and chagrin of the family surgeon, the consultant forthwith made arrangements to take the case for operation and subsequent care. This same unethical offender within a short time thereafter, was permitted to see a case in another hospital and, with the same promptness displayed in the previous case, he made arrangements to transfer the patient to his own hospital for operation. When members of the staff of the hospital from which the patient was purloined suggested that the attending surgeon prefer charges with the Ethical Relations Committee, the aggrieved surgeon claimed he was afroid to do so because

of the official connection of the gentleman with the A. M. A.

Recently one of our prominent physicians was charged before the Ethical Relations Committee of a County Medical Society with improper conduct towards a fellow. The unethical act with which he was charged was that he had secretly arranged for room and operation in his own hospital without proper understanding with the previous physician. At the trial he admitted the corn (as the saying goes) but justified the act on the ground that the patient might or perhaps would have gone to a fee splitter. This to us is a new interpretation of the principles of ethics. Perhaps it is a new code with which we are not familiar. As yet we have not been shown a recognized code of ethics in which the performing of an unethical act is justified in order to prevent a similar violation of the code by another person. In every-day phraseology it is a "kettle calling pot black." The same line of reasoning could be argued in defense of a hold-up man who, after hitting a fellow-being over the head and taking his money, would argue in justification that the victim might or perhaps would have loaned the money to some individual who might not return it.

In all fairness we ask, have the principles of ethics adopted by the American Medical Association become obsolete? Certainly some leaders of the profession are applying rules of their own making and which are elastic enough to meet any emergency.

Even the laity is being taught that the code of ethics is ineffective. They do not hesitate to call in a strange doctor usually on the advice of some busybody friend who has some pet physician he wants to favor, and they have no trouble whatever to get another practitioner to step right in and take the case regardless of the propriety of calling on a patient in the absence of the attending physician.

We have another class of medical men who roam about in the medical world seeking whom they may devour and who seem obsessed with a malicious desire to belittle and cheapen a competitor without compunction. They never turn down a call regardless whose patient it may be and without exception deliver the fatal uppercut to the family physician when he is not present to defend himself. With a hypertrophy of the ego attitude they impress upon the family the importance of their personal attention; "that perhaps the other doctor is all right, so far as his limited ability goes, but I am one of the 'wise men of the East' and under my personal supervision there is no doubt of the outcome. We will take the patient to 'my hospital,' where I can give her better service and keep her under observation for a few days." This is an every-day experience. This confidence game is not operated exclusively on the general practitioner; the epidemic has reached the stage where it is being done by certain specialists on fellow specialists. In the latter situation the excuse of superior wisdom can not be offered in mitigation for in a goodly per cent of the instances the aggrieved party in the estimation of their fellows is much abler than the men who are resorting to "road agent" methods.

CHRISTIAN SCIENTISTS AND THE CORONER'S OFFICE

We are informed that in Sangamon County, Illinois, one T. C. Branson, a Christian Science "undertaker," is a candidate for Coroner on the Republican ticket.

To us the situation is one of gross hypocrisy. Ma Eddy and the high priests of Christian Science teach that there is no such thing as disease and death—that what mentally balanced people call disease and death is only "error."

Not only is this (numerically few) but noisy minority known as Christian Science trying to dictate all sanitary public health and life-saving legislation, but they are now out after the Coroner's office which is the final court of appeals when the question of the cause of a death is in controversy.

In no civilized country so far as we can ascertain is "error" a legally recognized cause of what is today accepted as death. In all fairness we ask how is an orthodox Christian Scientist conscientiously going to live up to the requirements of his oath of office when at heart he believes there is no such thing as death? Yet the law compels him to certify that one or more of the recognized diseases given in the United States census classification was the cause of the demise of the individual in question.

As we go to press we are informed that the Sangamon County Medical Society, together with the dentists, druggists and nurses of the

county, are working energetically in a campaign of education among their patients and patrons in an effort to defeat Mr. Branson. As a result of this activity the politicians are sitting up and taking notice.

From the standpoint of the welfare of the community, we believe it would be "Error" for the people of Sangamon County to elect Mr. Branson.

GOOD ADVICE WHEN DEALING WITH INSURANCE COMPANIES

The contract practice committee of the Chicago Medical Society advises members not to engage in telephone conversation in relation to fees.

Insist that communication be in writing so that in case of suits the committee will have a record of attempt to reduce just fees.

Contract Practice Committee,
Thomas P. Foley,
Chairman.

Note: We are reliably informed by one of our friends, not a thousand miles remote from Chicago, that insurance companies have sent word to their agents to write no more letters pertaining to physicians' bills. We are confident that the energetic Contract Practice Committee of the Chicago Medical Society is in no small measure responsible for this edict. More power to their strong right arm!

CHANGE IN HEALTH ADMINISTRATION METHODS IN RECENT YEARS.

During the last twenty years much change has been made in the matter of health administration. To-day in every city, village and town there will be found a health officer who keeps track of birth and death records, supervises contagious and infectious diseases, safeguards the sanitation of homes and arranges for the physical examination of school children.

In America registration of births, deaths and marriages is not as it should be; the registration area is far from covering the entire Union. Remedying this effect is one of the great needs of our economic system. There should be proper registration of all vital statistics, likewise registrations of all contagious and infectious diseases to the end that supervision of all may be brought about and that industrial diseases may be better understood and controlled.

Two decades ago few cities had municipal laboratories. Now every municipality of importance maintains a laboratory for the purpose of detecting bad milk, impure water, the examination of sputum and cultures taken from the throats of children; the examination of blood for typhoid fever, smears for gonococcus, investigation for diphtheria, typhoid, typhoid carrier and other diseases, a knowledge of which is essential in combating disease and death.

Another development of recent years is the examination of plans for the installation of sewers and plumbing in our cities. This innovation marks a very important item in progressive sanitation.

An innovation inaugurated within two decades is municipal control of public and private markets, groceries, bakeries, confectioneries, ice cream and soft drink manufacturers; the control of the milk production, not only in the cities but on the dairy farms. This latter is a conspicuous milestone in the progress of public health work. More recently we began the supplying of antitoxin for diphtheria and tetanus, vaccination against smallpox, typhoid fever, etc., inoculation against rabies, isolation in infectious diseases, a study of pellagra, hook-worm, bubonic plague, anterior poliomyelitis. All this work has great significance and indicates the changing conditions in public health administration.

Until a comparatively recent date there were no institutions for medical research nor could the Government or State make thorough investigations or study a situation like the recent epidemic of poliomyelitis in New York. Ten or twenty years ago in many communities to isolate a child suffering from diphtheria, measles or whooping cough and to place the house in quarantine was considered almost an impossibility, for the reason that it would violate public sentiment.

To-day a health officer goes ahead, quarantines, isolates and uses various immunizing sera and vaccines and there is little if any protest except among the membership of a few drugless cults.

Due to the unselfishness of the medical profession we are rapidly stamping out many epidemics by means of sera, vaccines, biological, chemical, and chemo-therapeutic agents, for instance; the plague, dysentery, typhoid and chol-

era. We are preventing the spread of venereal diseases by various means and therapeutic agents such as drugs, isolation, education, etc.

In recent years there has been a marked movement in various parts of the country to protect from pollution our rivers and lakes from which we draw our potable water supply. This latter step marks a great epoch in disease prevention for the reason that we cannot hope to reduce morbidity and mortality due to gastro-intestinal disorders, typhoid fever, etc., until we stop making open sewers of our rivers, lakes and streams.

Not only are we stopping the pollution of water supply but we are likewise able by chemical and physical agents to purify the supply even after it has become contaminated.

To-day a great battle is being waged against the fly, mosquito, rodents and other disease-conveying insects and animals. A vigorous campaign is being waged against tuberculosis. Millions of dollars are being spent annually in education and building hospitals not only for chronic, but for the incipient cases in order to bring about the segregation of those suffering from the disease, that we may better prevent the spread of disease to others.

Medical and dental school inspection, the examination and observation in psychopathic wards of persons afflicted with mental disease are conspicuous examples of the evolution that is taking place in things medical.

HOSPITAL STANDARDIZATION COMMITTEE OF THE ILLINOIS STATE MEDICAL SOCIETY SUBMITS THE FOLLOWING RULES AND REGULATIONS: COPY OF THE QUESTIONNAIRE TO BE USED IN HELPING TO DETERMINE THE ELIGIBILITY OF HOSPITALS THAT MAY POSSIBLY COME UNDER THE JURISDICTION OF THE COMMITTEE IN THEIR WORK OF STANDARDIZATION OF ILLINOIS HOSPITALS.

RULES FOR STANDARIZATION OF HOSPITALS ADOPTED BY THE COMMITTEE OF HOSPITAL STANDARDIZATION OF THE ILLINOIS STATE MEDICAL SOCIETY.

Regulations for determining the eligibility of hospitals in the State of Illinois for the reception and training of internes during the fifth (interne) year of medical instruction.

1. Hospitals must be of at least twenty-five beds capacity, with a daily average of at least twenty patients. Each interne shall spend his entire year of service either—

(a) In one hospital in which there must be a minimum daily average of five medical and five surgical cases, or

(b) Shall divide his service between two or three hospitals in such manner as to secure adequate practical experience with medical, surgical and obsterical patients.

2. Hospitals must have an organized staff which is to be held responsible for the general character of the professional work of the hospital.

3. Hospitals must require a history of the cases treated and a complete hospital record must be kept.

4. Hospitals must be equipped for all routine clinical, microscopical, pathological and bacteriological work, with a staff member in charge. Internes are to be instructed in and have practical laboratory work.

5. Hospitals must have at their disposal a complete x-ray department with a qualified person in charge under supervision of the staff. Internes are to receive instruction in details of the work.

6. Hospitals must provide instruction in anesthesia for internes under expert supervision.

7. Hospitals receiving obstetrical cases must provide instruction for internes under expert supervision in the delivery of normal and the more common abnormal cases.

8. Hospitals are to provide rules setting forth the duties and privileges of internes. The same must be posted and each interne provided with a copy.

LETTER OF TRANSMITTAL OF RULES AND QUESTIONNAIRE OF THE HOSPITAL STANDARDIZATION COMMITTEE OF THE ILLINOIS STATE MEDICAL SOCIETY.

The inclosed copy of regulations for determining the eligibility of hospitals for the reception and training of internes during the fifth (interne) year of medical education were adopted at a joint meeting of the Illinois Hospital Association, the Council on Medical Education of the Illinois State Medical Society and representatives of the Medical Colleges of this State, held in Chicago on August 13, 1920.

These regulations have since been approved by the Director of the Department of Registration and Education of the State of Illinois.

For the purpose of determining which hospitals shall be eligible under these regulations, it has been agreed and arranged that an inspection of all hospitals in this State will be made by the Illinois State Medical Society through their Councilors. These Councilors will inspect the hospitals located in their own territory, and in Chicago will, so far as possible, be assigned to hospitals with which they are not directly affiliated.

The Councilors will be fully instructed in the details of the requirements imposed, and will be provided with blanks upon which all information collected will be noted. This will insure a uniformity of inspection and tabulation of the results thereof.

In connection with this survey the Illinois Hospital Association desires to be of assistance to hospitals which may be deficient in any of the details of the requirements imposed in order that as many hospitals as posible may be declared eligible, and to the end that

the general efficiency of all hospitals in the State may be benefited through this work.

It is distinctly understood that failure on the part of any hospital to meet these requirements in full SHALL NOT be considered or construed to reflect on the reputability or good standing of any such hospital in any manner.

The results of all information collected in this manner will be available for all hospitals in the State, with the understanding that in no case will the name or location of any hospital be furnished without specific permission in each case.

Your full co-operation in this matter is necessary, and we urge that you instruct the person in charge of your hospital to afford our representative every facility for obtaining the information he desires upon his first visit to the hospital.

HOSPITAL STANDARDIZATION COMMITTEE OF THE ILLINOIS STATE MEDICAL SOCIETY.

M. L. Harris, M. D.;
John S. Nagel, M. D.
Clifford U. Collins, M. D.,
Ralph T. Hinton, M. D.,

Secretary Elgin State Hospital, Elgin, Ill.;
J. V. Fowler, M. D.

Chairman, 1225 N. Ashland Ave., Chicago, Ill.

HOSPITAL STANDARDIZATION COMMITTEE OF THE ILLINOIS STATE MEDICAL SOCIETY SUBMITS THE FOLLOWING QUESTIONNAIRE TO THE HOSPITALS IN THE STATE

For the Purpose of Determining the Hospitals Available for the Reception and Instruction of Internes in Accordance with the Law Governing the Subject

1. Name of Hospital?.....
2. Location? .....
3. President of Board of Trustees?.....
4. Has Hospital an organized staff?.....
5. Method of organization.....
6. Is the staff prepared to give proper instruction to Internes?.....
7. Who is responsible for the general character of the professional work of the Hospital?
8. Capacity of Hospital (Beds).....
9. Class of cases cared for:
   - Surgical .....
   - Medical .....
   - Obstetrical .....
   - Children .....
   - Nervous and Mental.....
   - Drug and Alcoholic.....
10. Average daily number of patients:
    - Surgical .....
    - Medical .....
    - Obstetrical .....
    - Children .....
    - Nervous and Mental.....
    - Special .....
11. What records are kept of cases treated?.....
12. Describe laboratory and equipment?.....
13. Is the laboratory in charge of a member of the staff? .....
14. Who instructs Internes in laboratory work?....
15. Describe X-Ray laboratory and equipment.....
16. Is it located in the Hospital or outside?.....
17. Is there a competent Roentgenologist in charge? .....
18. Do Internes receive instruction?.....
19. What provision is made for the instruction of Internes in the delivery of Obstetrical cases?
20. Does the Hospital provide rules setting forth the duties and privileges of Internes?.....
    Are the same posted?.....
    Are Internes provided with a copy?.....

HOSPITALS IN THE STATE OF ILLINOIS, OUTSIDE OF CHICAGO.

ALTON—
St. Joseph's Hospital.
Alton State Hospital for the Insane.

AMBOY—
Amboy Public Hospital.

ANNA—
Hale Sanatorium.
Anna State Hospital.

ARGO—
Sacred Heart Hospital.

AURORA—
Providence Hospital.
Argo Hospital.

AVISTON—
St. Joseph Infirmary.
St. Charles Hospital.
Mercyville Sanitarium.
Aurora Hospital Ass'n.

BATAVIA—
Bellevue Place Sanitarium.

BELLEVILLE—
St. Clair County Home and Isolation Hospital.
St. Elizabeth's Hospital.
St. Vincent's Hospital.

BELVIDERE—
Belvidere Public Hospital.
St. Joseph's Hospital.

BLOOMINGTON—
Brokaw Hospital.
Kelso Sanitarium and Hospital.
St. Joseph's Hospital, W. Jackson St.

BLUE ISLAND—
St. Francis' Hospital.

BREESE—
St. Joseph's Hospital.

CAIRO—
St. Mary's Infirmary.
Yates Memorial Hospital.

CANTON—
Graham Hospital.

CARBONDALE—
Holden Hospital.

CARLYLE—
St. Mary's Hospital and Home for the Aged.

CENTRALIA—
St. Mary's Hospital.

CHAMPAIGN—
Julia F. Burnham Hospital.

CHARLESTON—
M. A. Montgomery Memorial Sanitarium.

CHATSWORTH—
Chatsworth Hospital.

CHICAGO HEIGHTS—
St. James Hospital.

CLINTON—
Dr. John Warner Hospital.

COLLINSVILLE—
Harrison Hospital.
Harrison Tuberculosis Colony.

COMPTON—
Compton Hospital.

DANVERS—
Parkhurst Sanitarium.

DANVILLE—
Lake View Hospital.
St. Elizabeth's Hospital.
Vermillion County Infirmary.

DECATUR—
Decatur and Mason County Hospital.
St. Mary's Hospital.
Wabash Employees' Hospital Ass'n.

DE KALB—
De Kalb Public Hospital.

DIXON—
Dixon Public Hospital.
Dixon State Hospital.

EAST MOLINE—
Watertown State Hospital.

EAST ST. LOUIS—
Contagious Hospital.
Evangelical Deaconess Hospital.
St. Mary's Hospital.

EDWARDSVILLE—
Madison County Hospital.

EFFINGHAM—
St. Anthony's Hospital.

ELGIN—
Resthaven Sanatorium.
Sherman Hospital.
St. Joseph's Hospital.
Elgin State Hospital.

ELMHURST—
Crane Sanitarium.

EUREKA—
F. W. Nickel Hospital.

EVANSTON—
Evanston Hospital.
Evanston Sanitarium.
St. Francis Hospital.

FREEPORT—
Emergency Hospital.
Freeport General Hospital.
Globe Hospital.
Little Hospital.
St. Francis Hospital.

GALESBURG—
Galesburg Cottage Hospital.
St. Mary's Hospital.

GENESEO—
J. C. Hammond Hospital.

GENEVA—
Colonial Hospital.

GRANITE CITY—
St. Elizabeth Hospital.

HARRISBURG—
Harrisburg Sanitarium.

HARVARD—
Cottage Hospital.

HERRIN—
Baker-Gardiner Hospital.
Herrin Hospital.

HIGHLAND—
St. Joseph's Hospital.

HIGHLAND PARK—
Highland Park Hospital.

HILLSBORO—
Hillsboro Hospital.

HINSDALE—
Hinsdale Sanitarium.

INGLESIDE—
Sunnybrook Farm Sanitarium.

JACKSONVILLE—
Norbury Sanatorium.
Our Saviour's Hospital.
Jacksonville State Hospital.

JOLIET—
Silver Cross Hospital.
St. Joseph's Hospital.

KANKAKEE—
Barrett Hospital.
Emergency Hospital.
Kankakee State Hospital.

KEWANEE—
St. Francis Hospital.

KNOXVILLE—
Knoxville County Home and Hospital.

LA GRANGE—
La Grange Sanitarium and Hospital.

LAKE BLUFF—
Wheeler Convalescent Home.

LAKE FOREST—
Alice Home Hospital.
Lake Forest Hospital.

LA SALLE—
St. Mary's Hospital.

LAWRENCEVILLE—
Lawrenceville Hospital.

LINCOLN—
Evangelical Deaconess Home and Hospital.
St. Clara's Hospital.

LITCHFIELD—
St. Francis Hospital.

MACOMB—
Holmes Hospital.
Marietta Phelps Hospital.
St. Francis Hospital.

MARION—
Emma Jones Hospital.
Marion Hospital.

MATTOON—
Methodist Memorial Hospital.

MAXWELL—
Peoria County Hospital.

MENARD—
Chester State Hospital.

MENDOTA—
Harris Hospital.

METROPOLIS—
Walbright Hospital.

MOLINE—
Lutheran Hospital.
Moline Public Hospital.
Tri-City Sanitarium.

MONMOUTH—
Monmouth Hospital.

MORRIS—
Morris Hospital.

MT. VERNON—
Egyptian Hospital.

MURPHYSBORO—
St. Andrew's Hospital.

NAPERVILLE—
Edward Sanatorium.

NORMAL—
Fairview Sanatorium.

OAK FOREST—
Cook County Infirmary and Tuberculosis Hospital.

OAK PARK—
Oak Park Hospital.
West Suburban Hospital.

OTTAWA—
Ryburn Memorial Hospital.

OLNEY—
Olney Hospital.
Olney Sanitarium.

OREGON—
Allen John Sanitarium.
Illinois Valley Hospital.
La Salle County Tuberculosis Sanitarium.
Ottawa Tuberculosis Colony.

PANA—
Huber Memorial Hospital.
Pana Deaconess Home and Hospital.

PARIS—
Paris Hospital.

PEORIA—
Isolation Hospital.
John C. Procter Hospital.
Methodist Hospital of Central Illinois.
Peoria Municipal Tuberculosis Sanitarium.
Peoria Sanitarium.
St. Francis Hospital.
Sulphur Springs Sanitarium.
Peoria State Hospital.

PERU—
Isolation Hospital.
Peoples Hospital.

PONTIAC—
St. James Hospital.

QUINCY—
Blessing Hospital.
St. Mary's Hospital.

RED BUD—
St. Clement's Hospital.

RIVERTON—
St. John's Sanitarium.

ROBINSON—
Robinson Hospital.

ROCHELLE—
Lincoln Hospital.

ROCKFORD—
Rockford Hospital
Rockford Municipal Sanitarium.
St. Anthony's Hospital.
Swedish-American Hospital.
Weirick's Sanitarium.
Dr. Wilgus' Sanitarium.

ROCK ISLAND—
Detention Hospital.
Municipal Tuberculosis Sanatorium.
St. Anthony's Hospital.

SHELBYVILLE—
Shelby County Memorial Hospital.

SPRINGFIELD—
David Prince Sanitarium.
The Homestead, Hosp. Dept. of the Palmer Tuberculosis Sanatorium.
Isolation Hospital.
Redemption Home.
Springfield Hospital.
Springfield Open-Air Colony.
St. John's Hospital.

SPRING VALLEY—
St. Margaret's Hospital.

STERLING—
Keefer Hospital.
Sterling Public Hospital.

STREATOR—
St. Mary's Hospital.

SUBLETTE—
Dr. Angear's Hospital.

SYCAMORE—
Sycamore Public Hospital

TAYLORVILLE—
St. Vincent's Hospital.

TUSCOLA—
Sarah A. Jarman Memorial Hospital.

URBANA—
Champaign County Hospital.

WATERMAN—
Waterman East Side Hospital.

WATSEKA—
The Iroquois Hospital.

WAUKEGAN—
Lake County General Hospital.
Victory Memorial Hospital.

WHEATON—
Mary E. Pogue Sanitarium.

WINFIELD—
Chicago-Winfield Tuberculosis Sanitarium.

WOODSTOCK—
Woodstock Hospital.

ZEIGLER—
Zeigler Hospital.

LEGISLATIVE NEOPLASMS, EVERY ONE OF THEM, MALIGNANT SOCIALLY

Compulsory Health Insurance—A Socialistic Wedge Leading to National Socialization of Medicine With State Medicine as the Transition Stage

A "cause" which requires a lie for argument has neither excuse nor reason for tolerance by honest men. The propaganda of the American Association for Labor Legislation, analyzed below, is just such a cause; the "24 cents per week per employee and employer" has been consistently and persistently dangled before the public as "bait." The line has been decorated with the roseate colored allurement of "Free Doctors, Free Medicine, Free Maternity Care, Free Hospitals, Laboratories, Etc., Etc., and Cash Benefits"—and weighted with the ponderous endorsement of a sensational foster-father (Davenport) who, as a propagandist, says: "The cost will be distributed as increased efficiency and good will," and who, as an erstwhile professor of political economy, *knows and must know*, that the employer's cost will be added to his "overhead" and passed on to the ultimate consumer,—the working man,—who, in the last analysis, will be a "poor fish" if he swallows the propaganda, hook, line and sinker.

The U. S. Bureau of Labor Statistics in the spring of 1919 estimated $26.00 per year as the normal cost per person for health service and supplies. This analysis makes $24.74 the basis—the propaganda premium yields $2.42! (See line H.)

HOW COMPULSORY HEALTH INSURANCE WILL WORK OUT IN NEW YORK STATE
FIND YOUR OWN STATE'S WORKING POPULATION AND APPLY IT

The propagandists say: "The average man earns $2 per day; loses 9 days per year from illness; will pay 24c per week—his employer paying the same— that with this premium he can receive all cash and medical benefits and the cost to the taxpayers will be nominal.	For one "Average Man" $	Totals	For 1,000 Persons, the Equivalent of 500 Families, Under the Care of One Panel Doctor $	Totals	For the 4,000,000 working men and women who are to be the natural victims of compulsory health insurance $	Totals	
A—CASH BENEFITS—For 6 of the 9 days the "average man" is sick—Per year @ $1.14	6.84		6,840		27,360,000		—A
B—MATERNITY BENEFITS—For the "average man's" proportionate share—2.43 days @ $1.14	2.76		2,760		11,040,000		—B
C—FUNERAL BENEFITS—For the "average man's" proportionate share equivalent to	1.46		1.460		5,840,000		—C
D—TOTAL CASH BENEFITS PER PROVISIONS OF BILL		11.06		11,060		44,240,000	—D
E—RESERVE, 15%; GUARANTY, 15%		7.49		7,490		29,960,000	—E
F—ADMINISTRATION EXPENSE, 16%		3.99		3,990		15,960,000	—F
G—TOTAL CASH BENEFITS, RESERVE, GUARANTY, ADMINISTRATION		22.54		22,540		90,160,000	—G
H—AMOUNT AVAILABLE FOR HEALTH SERVICE AND SUPPLIES		2.42		2,420		9,680,000	—H
I—PROPAGANDA PREMIUM OF 24c PER WEEK		24.96		24,960		99,840,000	—I
J—DEFICIT—On basis of present, normal "mean" cost for health service and supplies $24.74		22.32		22,320		89,280,000	—J
K—APPROXIMATE ECONOMIC PREMIUM		47.28		47,280		189,120,000	—K

H—The $2,420-Line-H-Total-Column-2 must be made sufficient for Doctor, Dentist, Druggist, Nurse, Hospital, Laboratory, Sanitaria, Etc., plus all medical, surgical and obstetrical supplies—for 1,000 persons for a *total* of 11,430 sickness days per year, inclusive of maternities in "insured women and the wives of insured men."

J—This deficit must be made good by increasing the annual premium until it represents 10.3c of every dollar a workman earns —or the taxpayers must make good an annual deficit of approximately $90,000,000. (And the *whole cost* of the state administration in 1919 was $59,000,000.)

N. Y. STATE ASSOCIATION OF THE MEDICAL AND ALLIED PROFESSIONS—John J. A. O'Reilly, M. D., Chairman, 405 Union St., Brooklyn, N. Y., July 20, 1920.

PROPOSED DRASTIC MEDICAL LEGISLATION IN CALIFORNIA AND OREGON. OTHER STATES TAKE NOTICE OF WHAT IS IN STORE FOR YOU.

Four Anti-Health Measures Proposed. They Appear Together on the Ballot and Have a Singular Unity of Purpose and Are Appropriately Called the "Quack Quartette."

Three amendments and one recall will come up for consideration before the voters of California on November 2nd. They are the chiropractic initiative amendment, the anti-vaccination amendment, the anti-vivisection amendment, and the so-called poison act.

In Oregon, there is a constitutional amendment proposed which reads as follows: "No form of vaccination, inoculation, or other medication shall be made a condition in this state for admission to, or attendance in, any public school, college, university, or other educational institution; or for the employment of any person in any capacity or for the exercise of any right, the performance of any duty, or the enjoyment of any privilege."

This amendment was originally introduced in California. It was realized, however, that it could not pass in this form and was evidently amended by the omission of the last clause and the insertion instead thereof of a statement to the effect that the amendment should apply to any person holding public office.

We have now at hand a copy of the vivisection amendment. It is, however, exceedingly drastic, and would prohibit animal experimentation of any kind. We do not think there is much likelihood of this amendment passing. A splendid object lesson has recently been shown in the State of California through the researches of the State Board of Health, who have proven that botulism in ripe olives can be prevented if they are heated to 240 degrees for forty minutes. The experiments made by the State Board of Health were conducted on guinea pigs and the results accomplished saved the olive industry of the state.

The anti-vaccination amendment is being pushed very hard by its proponents and its passage in the early part of the campaign seemed likely both in Oregon and in California.

The Chiropractic Initiative Act proposes to create a board of examiners composed exclusively of chiropractors for the exclusive benefit of certain groups of chiropractors. This dangerous demand for special legislation was rejected by the last California legislature and previous legislatures.

Five reasons are here given for its defeat.

First, there are 27 drugless cults in California, chiropractic being one of them. If chiropractors are granted a special board, the other 26 are equally entitled to a special board.

Second, with 27 varieties of boards to examine 27 varieties of cults, the state would lose proper control and could not protect the lives and health of its citizens from the incompetent, unskilled and unscrupulous.

Third, the chiropractic initiative is based on the false pretense that the present California board of examiners is unqualified to examine chiropractors. All competent applicants can now secure licenses by passing the examination and complying with lawful requirements.

Fourth, the chiropractic initiative is promoted by chiropractic colleges and groups of "advertising specialists" who declare that chiropractic contains unlimited possibilities for great financial success. If granted the power to license themselves, regardless of educational qualifications, "great financial success" may be won at the expense of the sick.

Fifth, the welfare of the public is best protected by one responsible board. The governor can change the membership of the present board whenever he deems it desirable. The courts can review and reverse the Board's decisions. From such a well-regulated Board all applicants are assured of ample justice and the people of adequate protection.

Prohibiting compulsory vaccination is the misleading title of the second proposition—the anti-vaccination, anti-inoculation, anti-medication, anti-health constitutional amendment. The California State Board of Health declares that if this amendment is adopted the state will be in constant danger of an epidemic of smallpox and the State Board of Health will be powerless to check such an epidemic.

There are six reasons why it should be defeated: First, it is filled with lurking dangers. It breaks down necessary health, sanitation and quarentine laws. It not only removes the safeguard of vaccination, but outlaws "inoculation or other medication," which means that children may come from homes in which there is diphtheria, scarlet fever, measles, infantile paralysis and any infectious or communicable diseases and attend school and endanger the lives of other children.

Second, to understand the real purpose of this amendment one must read the official report of "The Public School Protective League"—a religio-politico organization which placed this anti-health amendment on the ballot. Its official report shows that it worked actively against the public health activities of the Children's Bureau, the National Tuberculosis Association, the Red Cross, the Y. M. C. A., the War Camp Community Service, the Junior Red Cross, Dental Nurses, et al., and hampered the federal, state, county and city boards of health.

Third, in the light of its anti-health record the specious plea of the misnamed "Public School Protective League," that its only purpose is to prohibit compulsory vaccination of school children is shown to be deceptive.

Fourth, California already has a law exempting children whenever parent, guardian or persons responsible for them, are conscientiously opposed to the practice of vaccination.

Fifth, American law does not recognize the right of

the individual to do as he pleases when his act endangers life or health of his family, his neighbors or the citizens generally. This amendment demands these perilous privileges.

Sixth, all health and medical authorities agree on the protective value of vaccination. The United States Government insists on vaccinating all who join the army or navy—*why?* Because vaccination protects them. It would be criminal folly for California to nullify its health laws and abandon a thoroughly tested and reliable method of protection against the dreadful scourge of smallpox.

The anti-vivisection amendment prohibits vivisection. It is a destructive measure proposed by the misguided and supported by the misinformed. It prohibits "experimentation" on rats, fleas, mosquitoes, rabbits, mice, guinea pigs, snakes, birds, cats and dogs and on all other animals, regardless of whether the "experimentation" involves any cutting or causes any pain. It would be as pernicious to animals as to man. It would stop the progress and destroy the development of California's resources. Here are seven reasons why this amendment should be defeated.

First, the health and welfare of the people of the state depend upon an abundant supply of wholesome food. If the anti-vivisection measure is adopted the means by which the farmers now stop the spread of chicken cholera, hog cholera, anthrax, scab, black leg, texas fever, lumpy jaw, etc., the means by which feeding and breeding experiments are scientifically conducted, the means by which the cause and remedy for botulism and other food poisons are discovered, would be permanently prohibited. This means less food, dearer food, and more dangerous food.

Second, the serum and virus to protect hogs against cholera, like many other valuable remedies, were developed through animal experimentation by the United States Bureau of Animal Industry. Losses from hog cholera alone have been reduced 60 per cent. through animal experimentation—a saving of $41,000,000 per annum.

Third, animal experimentation is the foundation of bacteriology. Without it you can not have safe milk.

Fourth, you don't want your children to get tuberculosis from tuberculous cattle. You don't want them to suffer and die from laryngeal diphtheria. The eradication of tuberculosis among food-producing animals is impossible without tuberculin and without anti-toxin many children must choke to death. Anti-toxin, tuberculin and an endless list of life-saving treatments would be prohibited by the inhuman anti-vivisection act.

Fifth, whether one estimates the value of animal experimentation in food, in clothes, in money, in suffering relieved or lives saved, it is of incalculable benefit, it has provided the veterinarian and sanitarian with powerful means of relieving suffering and preventing and controlling disease. It is the basis of sanitary campaigns. It led the way to conquer yellow fever, malaria, typhoid, typhus, bubonic plague and smallpox. It discovered the specific cures for diphtheria, hydrophobia, tetanus, syphilis, etc. This anti-vivisection act would stop the crusade against venereal diseases.

Sixth, the safety of modern surgery, the practice and progress of modern medicine, depend upon animal experimentation; 95 per cent. of animal experiments are to determine the strength, purity and safety of drugs that are used by physicians, dentists and veterinarians for the benefit of man and animals. Anesthetics are used in animal operations the same as in operations on persons wherever the procedure would otherwise inflict pain. Anesthesia is a product of animal experimentation. This anti-vivisection act would prohibit anesthesia and make all operations on man and animals cruelly painful and horribly hazardous.

Seventh, the anti-vivisection initiative in California would result in a permanent quarantine being placed against the state that would restrict the movements of cattle, sheep, hogs, poultry, and farm, garden and orchard products. The people of the state would be deprived of the scientific means of finding out for themselves or proving to other states that California products are fit for human or animal food.

The doctor's public health agencies, life insurance companies and public-spirited citizens generally are working energetically to defeat these measures in California and Oregon. The Metropolitan Life Insurance Company alone, we are reliably informed, distributed 500,000 pieces of educational literature among their policyholders in the two states.

A NEW DEPARTMENT.

Beginning with the January issue, the *Medical Review of Reviews* of New York will inaugurate a new department for the advancement of the science of Chemo-Therapy.

In order to develop the theories as set forth by the various investigators who have thus far entered this field, we invite the co-operation of all the physicians, chemists, bacteriologists and pharmacologists who are doing and contemplate doing work along these lines.

It is our purpose to stimulate a more thorough fundamental knowledge of this subject, which so far is little known to a great number of practicing physicians.

Believing Chemo-Therapy to be a rich field for the development of products of great therapeutic value, and that we have so far neglected to give it the importance that past researches would warrant, we are placing this department at the disposal of all those who may find an interest in the subject, as an open forum where contributions dealing with this science will be welcomed.

A NEW MEDICAL JOURNAL.

General practitioners as well as specialists in obstetrics and gynecology will welcome the *American Journal of Obstetrics and Gynecology,* which was issued from the press of the C. V. Mosby Company, St. Louis, in October, for the first time. The new publication is a worthy successor to the *American Journal*

of Obstetrics and Diseases of Children, which discontinued publication in February.

The editor, Dr. Geo. W. Kosmak and the associate editor, Dr. Hugo Ehrenfest, will be assisted in defining the policies of the new journal by an editorial board representing the American Gynecological Society, the American Association of Obstetricians and Gynecologists and several of the larger obstetrical societies. Number 1 of Volume I contains the proceedings of the 45th annual meeting of the American Gynecological Society, held in Chicago, May 24-26, 1920, and several of the addresses and papers read on that occasion, as original articles.

The style and illustrations of this publication are of the uniform grade of the Mosby Company and we bespeak a general welcome on the part of the profession for this ambitious undertaking.

GETTING A MEDICAL EDUCATION IN ILLINOIS FIFTY YEARS AGO—PROCURING DISSECTING MATERIAL A REAL HAZARD.

Dr. Norman Bridge in his latest work, "The Marching Years" (which we reviewed exhaustively in our October number), Chapter 8, gives data that we are confident will be of interest to many Illinoisans. We reproduce this chapter in full:

The fact that medical students must, when under proper instruction, dissect the human body, is usually hazy in the casual lay mind; is often spoken of under the breath; and is doubted by many persons of superficial minds who are wont to take the world about them for granted. That a person competent to treat and operate on the sick human body must have had practical study of anatomy, never occurs to half the people; hence it is not strange that many good souls should think it horrid or sacrilegious, and that the procurement of bodies for dissection seems an outrage on human rights and the sanctity of the dead.

Not only is it indispensable that every practitioner shall have had this study, in order to be competent, but for this purpose bodies have, until recent time, usually had to be procured in illegal or unlegal ways.

As from my graduation in medicine it fell to my lot to teach anatomy for two years, and sometimes, then and later, to be concerned in the procurement of material for study, a record is here made of some of these experiences.

In the spring of 1868 Dr. Charles T. Parkes was graduated from Rush as I was from the Chicago College. He was soon appointed Demonstrator of Anatomy in his *Alma Mater,* and I was made Assistant Demonstrator in mine. Dr. John M. Woodworth was the Demonstrator of record, and my chief. He was one of the finest gentlemen I was ever associated with; but he was fastidious, and hated the program of daily teaching in a practical-anatomy room; it was too untidy and malodorous—besides, he was diffident with students.

Parkes was a man of great force and a fine anatomist. He afterward became a superior surgeon; and died Professor of Surgery in his *Alma Mater.*[1] He was my colleague and friend during the last fifteen years of his life. He began his work as Demonstrator with enthusiasm, and prepared for the next college session. One of his most important and delicate duties was to supply material for dissection. Up to that time, and for years afterward, substantially all cadavers for American medical schools were procured in some illicit way. In many of the states it was a crime to procure bodies, and it was an offense against the law to practice without a knowledge of anatomy that dissection alone can give. In our state they could be had only from the Potter's Field or, with daring recklessness, from other cemeteries—or finally by some secret pecuniary arrangement with public officials for the unclaimed bodies from almshouses and prisons.

In the summer of 1868 Parkes and Woodworth agreed that the former should procure all the material for both colleges, and assign it to them according to their respective number of students. Parkes made a secret arrangement with the county undertaker; and we were to share all expenses in proportion to material used.

For a time after the college term began all seemed to go well, but later there was complaint among our students of shortage of material. Some of them visited friends in the rooms of the other college, and reported that they had found there an abundance of good subjects, while ours were few and poor for study. Woodworth made gentle complaint to Parkes, was told that we were getting a square deal, and that we would have to be patient. But matters grew worse rather than better, and it finally became evident that we must act for ourselves or lose our reputation. It was a disagreeable business to tackle; and as my chief had, to my benefit and pleasure, given me all the demonstrating to do, he invited me to assume this task also. He gave me a free hand and no instructions—and did not care to know my plans. He told me in detail of the secret trade Parkes had with the county undertaker, through whom all the material was being secured. This was the way of it: The bodies were put in boxes and assembled in a large vault in an old and mostly vacated cemetery, that had been added to the south end of Lincoln Park. (The vault was nearly the last evidence of the cemetery to disappear.) When a wagon load of boxes had accomulated, the undertaker notified the county inspector to go, late at night, and inspect them, and give him a permit to take them to Jefferson[2] at daylight the next morning and bury them in the paupers' cemetery. The inspector was an official appointed by the County Board to watch the undertaker and prevent any ir-

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[1] In the spring of 1891.

[2] Jefferson was some miles northwest of the city; later to be incorporated into the city.

regular schemes for his own profit. The Board was jealous of its own and the undertaker's public virtue. Between the visit of the inspector and daylight there was time for various manipulations. A bag of sand was usually the only thing buried in each box—if even the box was buried.

The undertaker was a man of caution as well as acumen, and in order to avoid any possible hitch in the arrangements he always himself made a preliminary inspection before calling the public inspector. Once when he made such an inspection he found to his amazement that one of the boxes was empty. If the inspector discovered this the undertaker would probably lose his job, and with it his irregular profits. In fear and anger he hurried to Parkes with the fact of the empty box, and accused him of having allowed his man, in violation of the compact, to steal its contents. Parkes of course denied it, but the man was both unyielding and furious; he said there were only two keys to the vault, of which Parkes had one and he himself the other, and that he knew well that *his* key had not been near the vault, and therefore the other key must have been used—and more talk and much threatening. Parkes saw that it was useless to protest, and told him that it should be made right. The only way to do this was to send men to the Potter's Field in Jefferson, dig up a cadaver through four feet of frozen earth, and bring it back and put it into the empty box before the inspection —all of which was promptly done.

Whether the undertaker was ever convinced that Parkes had told him the truth about the affair was never learned. But it was his own precious key that opened the vault for the theft. A young bearded anatomist who looked ministerially honest had visited the undertaker's place one evening after the proprietor had gone home, and had talked in an extremely friendly way with the Scandinavian helper who had been left in charge. Under a promise to return it early the next morning and to remember the man for his kindness, the key was borrowed. The man said, "Aif you don't get that key back here by seven o'clock tomorror mornin' I'll lose my yob." The key was there on time by the hand that had borrowed it, and the man received two dollars with a smile of satisfaction that showed he had probably not expected more.

The anatomist had, the evening before, reconnoitered Lincoln Park, and he now sent a trusted man with the key, and instructions to get everything he found in the vault, and take it to a barn in the rear of a drug store on West Lake Street.[3]

The man found only one specimen in the vault that was fit for study, and he brought that away, covered with a gunny sack and folded in a barrel. After making his promise good to his Scandinavian friend, the anatomist rode with an expressman and the barrel to the college, four miles away. The express wagon was a rickety affair, and he rode with constant fear that the thing would break down. To add to this peril the cover on the barrel—an inverted, lidless box, held with poorly nailed cleats—was shaken loose, and he had to hold it in its place manually during the rest of the journey. And the curiosity of the driver as to the contents of the barrel had to be appeased.

Dr. Parkes promptly charged Woodworth with what he called a despicable trick, and the latter disavowed any part in the affair—in which he was literally if not constructively justified. Afterward, on my casually meeting Parkes, he charged me with the conspiracy —in a profusion of colorful verbal expletives. The only response made to him was to the effect that I refused to discuss this or any other bygones, but that if we got a square deal thereafter there would probably be no more trouble. And we had a square deal from that time on.

One quandary was never answered—why the undertaker's man took the risk of secretly loaning the key (the importance of which he must have known) to an utter stranger, on no promise of any definite reward. The fact of the awful and unintended practical joke, in connection with the frozen earth, leaked out through a student who was in the office of Dr. Parkes; and for prudential reasons I never afterward referred to it in the presence of the latter.

Years afterward, when I was on the teaching staff of Rush, a law was passed by the legislature permitting almshouses, prisons and hospitals to turn over their unclaimed dead to medical colleges within the State. This of course meant some official graft, which the colleges knew they had to stand, with or without the law. When the law was passed we thought all our troubles about anatomical material were over. And they were, until some members of the County Board fell out with the undertaker because, as was hinted, they failed to get their share of the rake-off. They forbade any further deliveries of subjects to anybody under any circumstances. Then the colleges were confronted with a most desperate situation; they were substantially compelled to buy material at fabulous prices from reckless people, who did some scandalous things to procure it; and some of these people were medical students—more was the pity.[4] This state of things went on for two years or more before an aroused public sentiment throughout the State compelled the legislature to make the law compulsory instead of permissive. This permanently ended the trouble and put a stop to the heartrending outrages against decency.

During this time of defiance by the county authorities they guarded the unclaimed dead with intense scruple, and tried to have them buried and stay buried. Toward the end of this period, Dr. Strong, the Demonstrator of Rush, came to me in midwinter in great distress, and begged for help in procuring material. He had been to Dr. Parkes, then Professor of Anatomy, for advice and direction. Parkes had declined either to advise or direct him—naturally fearing to be

[3]This was the store of Dr. J. S. Hunt, a friend whose former home had been Sycamore. I knew his father and brother there.

[4]One of the students, the lesser of two offenders, went to the penitentiary for a year; while his pal and the greater offender ran away, and afterward committed suicide.

involved personally in a risk that properly belonged to the Demonstrator. There was at that time a warm friend of mine at Dunning, an assistant physician to the County Poorhouse and Insane Asylum, who had long desired to do me a favor. He was asked now to help Strong in any way he could, without involving himself in trouble. He promptly called to his aid a close friend of his, the most prominent man in that part of the town, an elderly, staid citizen who was anxious to do him a favor, and who had not lost the love of adventure of his youth. Together they soon brought results.

A curious thing happened. The unclaimed bodies were then being gathered in an old smokehouse near the Asylum until a wagon load had accumulated, when they were all supposed to be buried at one time. The smokehouse was not merely kept locked; it was guarded by a special watchman who was on duty every night. But one morning it was found that some half dozen bodies which were there the night before had disappeared. The county authorities were furious, and at once started an inquisition. The watchman was put upon the rack, and swore that he had been at his post every minute during the night, and saw nobody. One policeman on Milwaukee Avenue testified that in the morning twilight he had seen a team, hitched to bob-sleds carrying a wagon box filled with hay, and with two men on the seat, which passed down the avenue toward the city. He thought it was merely a farmer going to town on normal business. This was all the County Board ever discovered about the theft.

The poor watchman was discharged, of course. His conduct was never explained at the inquisition. He was an honest old fellow who tried to tell the truth; but he forgot to state that, at near midnight, the kind apothecary had come out and said, "Mike, you'll freeze; come into the drug room and get warm"; that he came in, and that this good friend had treated him to a toddy; that he drank the toddy and, after warming himself and swapping stories with the apothecary, he got up to go back to his duty, when the friend entertained him further with conversation and another toddy. Mike's warming inside and out kept him there more than half an hour, enough time for two husky men to hide several objects in a near-by barn. So when Mike came back to his duty the smokehouse was locked, and his beat was waiting for him, apparently as he had left it.

Note:—"The Marching Years." By Norman Bridge, M. D., A. M., LL. D., can be procured of Duffield & Company, New York. Price $2.50.

WHAT STATE MEDICINE IS NOT

It is not right, however, that this function of the State or nation should be prostituted to the penalization by panelization of the profession of medicine, the pauperization of the people and the profiteering of the politician and professional philanthropist through a policy of inverted economy parading under the specious title of *welfare*, and wearing the cloak of "Brotherhood of Man," as a Compulsory Health Insurance Act, a State Medicine Act, a National Socialization of Medicine Act, a Coercive Medical Practice (Re-registration) Act, a Drugless Therapy Act, or any group or combination of these Acts until and unless the people who are the heirs to the rights of the collective parties to the Constitution of the State and Nation are afforded a full, free and frank exposition of the *facts* which the propagandists dare not submit and the Medical men *must*, or prove false to their trust; to do this Medical men must *know* and *teach* their people, in the home and on the street, in public halls and in the lay press; by exhortation and in debate, and this they cannot do unless they organize as citizens in professional guilds and associations or by investing their scientific societies with a dual function, the study and mastery of social as well as physical epidemic disease so that the quarantine against hysterical and vicious public health legislation may be as absolute as against the Bubonic Plague.

It is not right that the right of distribution of 10.3 cents of every dollar a working person in the State of New York earns should be taken from him, directly, as premium, or indirectly, as premiums-plus-taxation, to make up the deficit, by writing Compulsory Health Insurance into the Laws of the State of New York at the behest of organizations with high sounding titles whose officer bodies are dominated by men and women in sympathy with the Rand school and the doctrines of the Third Internationale and the Sovietization of American affairs and out of sympathy with the traditions and institutions of our country.

It is not right that a measure, like the Sage-Machold Bill (N. Y. Senate Bill 1533), which completely changes the people's plans for the treatment of human ills, should be jammed through a legislature without giving the people an opportunity to learn and judge and decide whether they want the function of salutary State Medicine expanded to embrace the absorption of the agencies of healing, under a political State head, operating through political bodies like selectmen and supervisors in villages and towns and small cities, and such bodies as the Board of Estimate and Apportionment in large cities, like New York. That Bill was killed in committee, but will be introduced next session.

It is not right that such political bodies should be vested with power to acquire the control of existing hospitals, and other agencies of healing, or to erect others in competition with them, in the most approved trust fashion of taking over or crippling the independent operator, so that he must submit to penalization "eventually—so why not *now?*"

It is not right that a huge political machine, beginning with a state superintendent of health taking his appointment from the party in power and extending down to the health officers who take their appointment from the board of select men, supervisors, etc., and passing out through hospital superintendents, internes and visiting staffs, designated by medical

boards, which are themselves the appointees of lay political bodies, should be constructed, with the health of the individual tax-paying citizen as a pawn in the game and his right of free choice of who shall stand between him and death when disease enters the home, actually or constructively eliminated and the poetic doctor, of his family, in whom he has confidence, forced by economic necessity, to submit to panelization as part of this gigantic scheme to subordinate the agencies of healing to the State Socialization of Medicine, and to convert the sacred profession of medicine into a peace working trade or groups of discontented salary workers, under the domination and control, in the exercise of their medical faculties, of district foreman, for whose medical opinion, in the circumstances of the case, the average self-respecting doctor of today would not give a "whoop in Hades." Yet, all of these things are part of the provisions of the Sage-Machold Bill in its practical operation because the judicial branch of the government would be bound to interpret that statute according to the "ordinary meaning of the words," which is far different from what the propagandists intend the average man to think they mean; let me give you a startling example.

Propaganda vs. Operation: A Medical Practice Act (Kenyon Bill Assembly Bill 840) was introduced at Albany this year; it is known as "the Medical Re-Registration Act," and forms an amendment to the already existing Medical Practice Act, Sec. 164, Chap. 49 (1909), constituting Chap. 45 of the Consolidated Laws under which physicians exercise their faculties. The propagandists said (some of the prominent leaders of medicine in the state actually believed) that the purpose of the bill was to provide a proper census of the medical forces of the State and check the illegal practice of medicine by transferring the prosecution of such cases from the district attorney of a county to the attorney general of the State. The introducer of that bill pleaded for its passage on the ground that the State Medical Society Committee had endorsed it; another assemblyman said that it was a bad bill, that the rank and file did not want it; it was killed. Why? We need a medical census, as much as a cat needs two tails; we have one, now, and the U. S. Census Bureau has about completed another. The implication that the district attorneys of the counties in this State select the unlawful and illegal practice of medicine as the channels through which to manifest their betrayal of trust is not warranted by the facts, and, even if true, would not warrant this new law because the law under which the district attorney now exercises his function makes him a district attorney in the district which forms part of the attorney general's jurisdiction and the attorney general, for cause, may supercede the district attorney for any county in the State, and through a special deputy attorney general conduct any prosecution in which the State, as such, is a party in interest. Again, why should this bill have been killed? Because it resurrected and revivified a part of the original Medical Practice Act, which was necessary and equitable in 1896 to provide for the endorsement of diplomas and licenses of those graduating in medicine, prior to 1895 (of whom there are not a half dozen in this state today, whose registration of license has not been affected or contains some technical defect which requires remedying); but, at this time, a quarter of a century after that section had served its purpose, as an enabling clause to permit the regents to recognize de facto physicians, as de jure, in accordance with the (then) new law. This section is entitled to remain "dead" instead of being brought back to life by an alteration in the fee, from $25.00 to $50.00 for endorsement of the diplomas of those graduates, prior to 1895 (probably 6 out of the 15,000 physicians in the State), and by the additional recognition of an unofficial organization, *The National Board of Examiners,* as an examining body in the process of licensing physicians. The two changes in the section of the law and the provision for annual re-registration, and the investiture of the licensing body with discretionary powers and the withdrawal of the moral interdiction of foeticide and infanticide and contraception (Sec. 170-d) so materially alters the Medical Practice Sections of the Public Health Law as to make it operative as a legislative entity with the status of *new law* and in considering the mandamus proceeding of a doctor, graduating *after* 1895 (who was in disfavor because he would "not help make operative the Compulsory Health Insurance Bill if passed"), to command the re-registering bureau to accept his two dollar fee and re-register him *without another examination* the judiciary of the State would be powerless to grant relief because it would be bound by the "ordinary meaning of words" in the interpretation of that statute. This Medical Practice Act, if passed, taken with the ruling decision on the *police power of the State* in this connection (Dr. Dent vs. State of West Virginia, 129 U. S. Reports, page 114, year 1889) would serve as the fulfilment of the threat of a New York senator speaking at the meeting of the 11th Assembly District Chapter of the Professional Guild of Kings County, October 31, 1919, during the Fall campaign, against Compulsory Health Insurance when he said: "If you refuse to make operative the Compulsory Health Insurance Bill, if passed, your license to practice medicine will be taken from you under the police power of the State." In the pamphlet which I had written a few months previous to this threat (The Menace of Compulsory Health Insurance) I had said the same in warning (paragraph 36):

"We take our license to practice Medicine from the State, and what the state giveth, the state may take away; better that, a thousand times, than that we should be a party to a plan which debases our sacred professions, endangers the public health, increases the death rate and the days-lost-per-year from illness of the people of this State, as it (Compulsory Health Insurance) has demonstrated its capacity to do in Germany, where, for thirty-five years, it has rested as a curse upon the body politic as part of the infamous

Kultur inaugurated by Bismarck and carried to ruin by the unspeakable Paranoiac of Potsdam."

Medical Record, Oct. 16, 1920. By J. J. A. O'Reilly, M. D., Chairman of New York State Association of the Medical and Allied Professions.

CHANGE IN NAME IDENTIFIES THE WILSON LABORATORIES WITH WILSON & COMPANY

HOLLISTER-WILSON NAME DISCONTINUED—ORGANIZATION REMAINS THE SAME.

Although these widely known laboratories have been directed by the same policies and standards maintained by Wilson & Company throughout, it has been shown by frequent inquiries that this fact was not always known to medical profession, pharmacists and hospitals.

The new name of "The Wilson Laboratories" will make the connection clear. It will signify that the therapeutic agents and animal derivatives bearing this name are not only produced by laboratory processes in strict accordance with the most approved practices; it will mean also that the source of supply is of unvarying dependability.

The standards of selection established by Wilson & Company for their food products, and their facilities for testing and maintaining uniformity, are of distinct advantage in the choice of materials for the Wilson Laboratories.

The laboratories are established in a specially constructed building apart from the Wilson abattoirs. They are particularly equipped for temperture control and preservation.

Every step in the preparation of these organic products is under the direct supervision of a staff of men whose reputation in the field of bio-chemistry is established by achievement.

Medical and surgical supplies labeled with the "Red W" and the name of Wilson Laboratories thus possess the highest degree of uniform quality.

Correspondence

THE FAMILY DOCTOR AND FREE SPLITTING.

To the Editor: So much has been said lately about the division of fees (I am not going to call it fee-splitting) its wrong, its degrading powers, and finally the placing of the family doctor and the surgeon in the class of "crooks," that I have decided to present the family doctor's side. Incidentally it will give the surgeon a hearing too. What follows does not often apply to the large cities. I am writing of conditions in towns of say five to fifty thousand inhabitants.

The following remarks may all appear to be against the surgeon of these communities; however, before I finish, it will be apparent that there is justice for the surgeon as well as for the family doctor. I want it for both, and for both of us to be raised from the ranks of "crooks."

In many of these communities (I can't always say towns, for much worthy surgery is done in country homes) conditions are as follows. There are minor differences of course, but in general this is the setting. There is the city of five to fifty thousand inhabitants. The hospitals range in size from twenty beds up to possibly two hundred. They are registered and unregistered. Nurses likewise, registered and unregistered, are good, bad and indifferent. The surgeons in these towns are of various grades.

Now here is my first argument for the family doctor, and the division of the operative fee. Most of these surgeons, *not all,* do medical as well as obstetrical work. The average surgeon in a medium sized town, naturally depends on this outside practice as well as on his referred surgery, that is, the work the medical men send in. If he does not do the medicine and obstetrics himself, there is an assistant who does it. No matter, the result is the same, the surgery, the best paid obstetrics, and much of the medicine goes to these men. All right I say, they deserve it, they have the knowledge, but what about the family doctor?

Generally, the family doctor is the one first called, often at two in the morning. He must be ready to diagnose an unruptured ectopic as well as syphilis of the stomach. He must go to Europe, drive a good car, dress well, have a good library, much equipment, send his children to college, and die at fifty, leaving plenty of book accounts and two thousand insurance to his wife.

May I give you an example of what I mean? Remember I am talking of doctors in small communities. Hundreds of doctors will bear me out. About seven months ago, a woman with a papilloma of the ovary came to me. Conditions in the case made the diagnosis hard. The family must know the cause of her immense size. Every little detail had to be most carefully explained. An x-ray was taken. The patient visited my office six or seven times to be convinced the operation was necessary. Only the first visit was charged, patients do not expect to pay for repeated examinations.

Finally relatives arrived from outside towns

in such numbers to go over the case with me, that my office girl began to count the hours so spent. Meanwhile, the patient lost valuable time, I did too, and after thirty-one hours of strenuous talking the patient arrived at the hospital. Up to this point, my charges against the patient and expected by her, were exactly thirteen dollars, ten of which paid for the x-ray picture.

Now we are ready for the surgeon. After two hours of hard work, the operation is done. My calls have been neglected. (I can't afford an assistant, not many family doctors can.) Several patients couldn't wait for me and went to the surgeon's office. (He has an assistant, you remember.) Now as to the operative fee? Is the surgeon to have it all? Yes, if he lets my medicine and obstetrics alone. No, if he does not.

This is not an extreme case. I could tell of many more. No surgical cases, outside of life and death, go willingly to their operations. It takes time, argument, skill, and patience to convince a man against his will and especially if it is for his best good.

Now what happens if things go wrong? Who gets the blame? Who loses the family to another office? This same, necessary family doctor, and still is he to receive no pay for all this? In the course of a year, it is not an uncommon occurrence to lose ten or twelve good paying families to your surgeons. All right, most of us are friends, we need one another, but let there be a fair adjustment.

So far, I have hinted at two solutions. The first is a division of the operative fee, and the second is the whole fee to the surgeon. Meanwhile he gives up most of the medicine and obstetrics, still keeping x-ray and general consultations for which good fees are paid.

There is a third solution. However, the family doctor will have to look out here. I understand in some communities, the surgeons are now making their own charge and allowing the family doctor to make his. This is how it works out. The family is excited, emotion runs high, a son's life has been saved, the surgeon is all in all to that family. He should be, a good surgeon is a wonderful man, he is a life saving part of humanity. However, he makes his charge, now makes it separately, but makes it so high and collects it so quickly, that the family doctor is ashamed to even think of a fee. Meanwhile his own bill for past medical services drags on for the next five years and is then outlawed.

Even here I see a glimmer of hope. Let the surgeon and family doctor consult together. Let the surgeon make a charge just to the family and *to the family doctor*. Then let the family doctor make his own charge. Tell the family about it, tell them the combined fee is the charge for the operation.

Just one point more. Don't make a secret of this. Let your patients know. Many patients ask me when operative bills are paid where my charges come in. I tell them the charges for the day of the operation, covers mine. They know no one works without pay. The patient wants the family doctor present and to assist. How many say to you, "Well doctor, if you will just stand by me and see to everything, I will go. For my future care, I want you to see what is done and what condition I am in." This is not egotism on the family doctor's part. It is only one of the essential human relationships. However, it takes time. The family doctor is a busy man these days. Temperature and pulse taking do not constitute a diagnosis. Such hours of work as I have described mean time, and time must be paid for.

MARY L. ROSENSTIEL, M. D.,
Freeport, Ill.

REPORT OF PAST YEAR'S WORK OF THE PROFESSIONAL GUILD OF KING'S COUNTY (NEW YORK)

By Frank D. Jennings, M. D., President

At the annual meeting of the House of Delegates held in the Kings County Medical Society Building, May 21, 1920, the following report of the year's work was made by our President:

A review of the first year's history of this organization can do nought but make us enthusiastic about both the necessity for it and the fulfillment of the purpose for which it was created, both of which facts, if one may judge from the liberal financial support recently accorded it, are very firmly entrenched in the minds of the members. Now more than ever, it is absolutely necessary that the organization exist and that it be perpetuated. In this time of great world unrest, of social and economic upheaval and readjustment, when the forces at work are unseen, intangible but potentially and actually mighty, it behooves us as thinking men to see to it that in the chaos, in the mad rush to change the old established order, no harm is done to the public, nor to us, who serve them, in the matter, all essential, of health—life—and their conservation.

The establishment of the Guild, embracing the associated professions of medicine, pharmacy and dentistry, marks the dawn of a new era as it means the substitution of the old idea of protest, with dignity, with a more militant one of aggression. To be brief, it means that as citizens we must step into the public arena, to inform the community and its legislators, of the dangers and pitfalls of attractively attired legislation—so-called "welfare legislation." It means further, apart from strictly public interest, that we will have a voice, a medium through which we may make more effective protest and fight, if need be, with greater assurance of success, against those impending legislative shackles, insidious shackles as we know from bitter experience.

Because of Dr. Webster's inability to serve, most of the tremendous work of the starting of the Guild, of organizing the Assembly District Chapters, of awakening interest in us, of rousing us from our lethargy, devolved on Dr. John J. A. O'Reilly. The work done by him, together with Doctors Heeve, Anderson, Koplowitz, Berkowitz, and others, was colossal. We are under a great obligation to them, for had they not been so zealous and untiring the Guild would have died "a borning." It gives me great pleasure to pay this tribute to those devoted workers. In this connection, the Board of Directors and Assembly District Chapter Chairmen must not be passed by as their interest and work have been loyal and unremitting.

The various sub-committees of the Board of Directors have done conspicuously good work. They are the Committee of Public Health, of which Dr. John J. A. O'Reilly is chairman. His work requires no eulogy. The Committees on Publications and Speakers, Dr. Wm. C. Anderson, chairman; Ways and Means Committee, Dr. Herbert D. Schenck, chairman; Finance and Membership, Dr. Abraham Koplowitz, chairman—all quietly and unostentatiously have done a great deal of work. Doctors Heeve and Clayton have also contributed lavishly of time and energy in very trying positions.

The problem which presented itself to us in December was to procure an office, and in accordance with the Constitution, an Executive Secretary. The Committee on Ways and Means, of which Dr. Herbert D. Schenck is chairman, took hold of this matter. They, as is generally known, arranged with the Trustees of the County Society for the use of two rooms in the Library Building as an office and also engaged the services of Dr. A. F. Lent as secretary.

Dr. Lent will submit his own report but I would like to say, regardless of that, that he has been most active, efficient and loyal. His long political and legislative experience, together with his medical training and learning, qualified him admirably for the position and he has done yeoman work during the recent Legislative Session. There is no question but that the employment of an executive secretary is as big a step forward and it means that we have arrived at the stage where we recognize the fact that certain phases of our work must be delegated to men specially experienced in political and legislative work.

The hearty response to the recent letter advising our members of the need of money must be construed as meaning that the practising physician, dentist, and pharmacist, is determined to have a representative body to care for his interests. The question often arises as to the possibility of conflict with the old established State Societies, especially since the House of Delegates of the State Medical Society passed a resolution authorizing the employment of an executive secretary. When the situation is carefully analyzed, however, there seems to be no reason why conflict should be expected or feared. The State Societies of our respective professions have a definite function, chiefly scientific. The function of the Guild is equally definite and can never be displaced or supplanted inasmuch as its organization rests on the Assembly District Chapter as a foundation, a fact of surpassing importance in a civic sense.

For the present and future, the near future, our way seems clear. First, an immediate effort must be made to retain and to increase our membership. The roster should show three thousand at least. Second, such study as we are able to make of the problem of sickness, and, if such a problem exists, to work out a solution for it. In that connection, the Sage Bill of the last session will merit study and it is hoped with that as a basis we may be able next winter to go to Albany with a constructive program. Third, to carry on the work of educating the public through a Speaker's Bureau, and such other means of publicity as may be found effective. Fourth, to take a non-partisan interest in the approaching primary and election to the end that we may know the attitude of the various candidates on Compulsory Health Insurance. Summarizing, it could be said that we must strengthen our organization, study the problems of sickness, work out a method of relief, if one is needed, and take the interest in elections that all good citizens should take.

The first year in our history has been written, and if I mistake not, written in non-erasable letters of permanence. Let us resolve that the structure to be erected on this foundation shall be one of strength and determination, characterized by unity of purpose and unity of action.

FRANK D. JENNINGS, M. D.

PUBLIC HEALTH

PREVALENCE OF DIPHTHERIA

Diphtheria is now prevalent in epidemic form in a number of sections of the State.

In anticipation of further spread of the disease, the State Department of Health is seeing to it that all of the three hundred agencies throughout the State are supplied with ample quantities of diphtheria antitoxin, available for immediate use. Culture outfits also may be obtained at these agencies. The Diagnostic Laboratories at Springfield are prepared to furnish the Schick

test for use in determining immunity to diphtheria. The State Department of Health calls special attention to the branch laboratories located in several sections of the State, to which swabs from the throats of suspects may be sent for examination.

These branch laboratories are as follows: North Branch Laboratory, 1202 W. Madison St., Chicago; West Branch Laboratory, Galesburg; North Central Branch Laboratory, Ottawa; East Branch Laboratory, Chamapign; South Branch Laboratory, Mt. Vernon.

LOAN SERVICE IN MOTION PICTURE FILMS

The State Department of Health is prepared to furnish motion picture films without charge to health officers, clubs, societies, schools and other organizations.

It is required that application for these films be made at least two weeks in advance. Not more than two films are loaned to a community at one time.

ILLINOIS AGREEMENT ON PUBLIC HEALTH NURSING

The State Department of Health, the Central Division of the American Red Cross and the Illinois Tuberculosis Association have entered into an agreement for the organization and supervision of public health nurses in Illinois.

Under this agreement the State Department of Health will employ a supervising nurse, who will have general supervision over all public health nursing service. There is also provided an assistant supervising nurse for Red Cross nursing service, and an assistant supervising nurse for tuberculosis. These assistant supervisors may be employed in whole or in part by the American Red Cross or the State Tuberculosis Association, but will work entirely under the direction of the State Department of Public Health.

Under the provisions of the agreement, it is believed that much of the duplication of effort and overlapping in nursing service will be avoided, inasmuch as no nursing service will be established in any community without conference between the State Department of Public Health and the two extra-governmental agencies to determine the wisest course to pursue.

This State agreement is in harmony with agreements previously entered into between the national office of the American Red Cross, the National Tuberculosis Association and the National Conference of State Health Authorities.

Copies of the agreement may be obtained from the State Department of Public Health.

BIOLOGICAL LABORATORIES ESTABLISHED

The State Department of Health has secured for its Biological Laboratories the quarters situated three miles north of the city of Springfield, formerly employed by the State Department of Agriculture for the production of hog cholera serum.

These buildings will be used for the production of certain biological products for distribution in Illinois.

The Diagnostic Laboratories for the time being will remain in the State House, where they have been housed for a number of years.

In securing these new quarters for the Biological and Research Laboratories, the congestion in the Diagnostic Laboratories has been relieved, and it will be possible to extend the diagnostic work as has not been practicable in the past. The increase in specimens examined in the Diagnostic Laboratories amounts to over four hundred per cent in the last nine months.

CROSS CHECK ON VITAL STATISTICS

The Division of Vital Statistics of the State Department of Public Health has placed in operation a plan whereby much greater accuracy in the registration of mortuary and birth data is obtained.

Under the rules of the Department, the local registrars, of whom there 1,500 scattered throughout the State, are expected to make simultaneous reports to the State Department of Health and to the county clerks of the severeal counties, and failure to comply with this requirement has caused marked discrepancies in the past.

Under the present plan, the Division of Vital Statistics checks up with the county clerk the reports received at Springfield, thereby guaranteeing complete data, both at the county seats and at the central office.

Society Proceedings

COOK COUNTY

CHICAGO MEDICAL SOCIETY

REGULAR MEETING, OCTOBER 6.

1. Non-Surgical Drainage of the Biliary Tract; Its Diagnostic and Therapeutic Possibilities.—Frank Smithies.
   Discussion.—Prof. Carlson, John Nuzum, W. W. Hamburger.
2. Osteoplasty Surgery, Illustrated by Moving Pictures and Lantern Slides.—Fred H. Albee, New York, N. Y.

REGULAR MEETING, OCTOBER 13, 1920.

1. Testicle Transplantation. Report and Demonstration of a Case.—Charles Mogran McKenna.
2. The Ulcer Syndrome Without Ulcer.—Alfred C. Croftan.
   Discussion.—R. B. Preble, Frederick Tice.
3. Carcinoma of the Large Bowel—Diagnosis, Treatment and Prognosis.—Carl B. Davis.
   Discussion.—D. N. Eisendrath.

REGULAR MEETING, OCTOBER 20, 1920.

Joint Meeting With the Chicago Pathological Society.

1. The Pathological Histology of the Lung-Structure in Bronchial Asthma.—Lantern Slides.
   Harry L. Huber and Karl K. Koessler.
   Presented by Dr. Huber.

2. The Clinical Aspects of Bronchial Asthma. Definition, Pathological Physiology, Pathogenesis, Diagnosis and Treatment.—Karl K. Koessler.
3. The Value of Intra-Nasal Surgery in the Treatment of Bronchial Asthma.—Geo. E. Shambaugh.

Discussion to be opened by Joseph L. Miller.

REGULAR MEETING, OCTOBER 27, 1920.

1. The Care of the Expectant Mother.—Irving F. Stein.
2. An Experimental and Clinical Study on the Functions of the Testicle.—V. D. Lespinasse.
3. "The Peritoneoscope, Pneumoperitoneum and X-Rays in Abdominal Diagnosis."—Benj. H. Orndoff.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

Meeting of March 1, 1920—Continued

Dr. Geo. E. Shambaugh presented a paper entitled: "Discussion of an Old Problem."

ABSTRACT

Dr. Shambaugh introduced his discussion by citing several recent experiences where cases presenting the most elementary clinical problems in otology had been given the wrong advice. This advice always erred on the side of recommending unnecessary operations, because no adequate diagnosis had been made of the patient's trouble. This state of affairs, he stated, is extremely common and is due to the practice of teaching general practitioners the technic of operation before they have spent enough time in the study of otolaryngology to enable them to make the proper examination or to diagnose the condition for which such operations are undertaken.

He contended that they should insist on the minimum of one year full time study before one should undertake the practice of otolaryngology, and that this study should be as much in the fundamental sciences as in the clinical study; that the instruction in operative technic should only be given as the final part of such preparation and not as the beginning, as is now too often done. He pointed out that the general practitioner of the past who attempted to treat all nose and throat cases by spraying and topical applications did no special harm, but that when this practitioner was taught the technic of an operation or two in the field of otolaryngology, the way was open at once for immeasurable harm because of unnecessary operating, unless they saw to it that he devoted eonugh time to the study of the subject to enable him to diagnose the condition for which such operations were undertaken.

DISCUSSION

Dr. Norval Pierce hesitated to open the discussion because Dr. Shambaugh was quite conversant with his views on the subject. The frequency with which the profession was brought in contact with cases that shows the crassest kind of ignorance regarding diseases of the ear, nose and throat, especially of the ear, was pitiable and a matter of considerable importance. The war had disclosed the fact that a large percentage of men who claimed to be fitted for entrance in the oto-laryngological sections of the Army were ignorant of the elements that go to make up a specialist in that branch. The cause for this was twofold: first, the lack of facilities for training oto-laryngologists in this country and abroad and, second, the commercial spirit of the age. If a man could learn the technic of tonsillectomies, he cared very little about the diagnosis of cases that would give him some idea regarding the advisability of tonsillectomy. If he could learn the technic of any operation, the fact of whether or not it was necessary to do that operation was pretty far back in his mind. The man with a family and no other means of supporting them than that which he got from the practice of medicine was a very human individual. It was easy in certain cases for the fee to turn the judgment in the direction of the operation—there was no doubt about that. Therefore, training in this specialty not only enlightened a man, but built up his character. A man who really had as much knowledge as could be obtained in these matters was a good deal better man as regarded his medical character than the man who had only a smattering. He did not blame the men especially, the foundation of the trouble was ignorance, not dishonesty.

Dr. Pierce believed with Dr. Shambaugh that the time was rapidly approaching when facilities would be extended to men to fit themselves for a beginning in the practice of oto-laryngology. One year of intense study was the very shortest time that should be devoted to this preparation. He believed they should begin with the teaching of anatomy and physiology, and with the physics of the specialty, if necessary. Graduates should not be admitted to the latter part of the course, which comprised clinical work, diagnosis and operations, until they had had preparations in the fundamentals. In fact, he thought it would be well for men in different parts of the country to get together and make certain requirements in this line. There might be an exchange of privileges—a man could take the first three or six months in one university and complete the course in some other university, but the whole thing had to be formulated. The fact that the post-graduate course of six weeks was being abandoned in many directions was a sure sign that it was about to pass away.

Dr. Otto T. Freer thought the poor opportunities offered in América for graduate medical study were largely the reason for the imperfect preparation of the specialist here. This would not be helped by prolonging the course or calling it a "university" one. Unless the teachers were so well paid by endowed or state schools that they could get as good a remuneration from instruction as from practice, and so seriously and methodically devote themselves to teaching, our graduate schools would continue to furnish a superficially taught product. One of the greatest lacks in graduate teaching was sufficient, and above all, properly preserved cadaver material. The formalinized mummies whose tissues had been hardened into leathery homogeneity that are given our students are nearly worthless as anatomical material. What made Vienna the foremost graduate school of the world was largely the immense supply of fresh or well prepared bodies for all classes of study, and the abundance of available clinical material not walled off from usefulness by vote seeking politicians. What gave the profession in Vienna its authoritative position was that the State was back of it. Our medical profession will not be able to enforce the respect that will give it the teaching material needed for graduate study until our private medical schools are eliminated and the doctor is a State or Federal product endowed with the authority of Government. This is very well exemplified in Michigan, where the graduates of the State University are looked up to with noticeable deference by the people of the State.

Dr. Eugene R. Lewis (Dubuque, Iowa), said he thought it was a fruitful subject for discussion and thought, although it was nothing very new. The same problem had always been present in one form or another. The time was when, if a boy decided to go into medicine, he allied himself with a

man who was already in medicine, and after a time he was in medicine, too. These conditions were not satisfactory, and finally certain requirements were stipulated for the degree of M. D. Then arose abuses, the M. D. "diploma mills."

He had heard one of the older Triologic members tell how he became a specialist, how very crude his entrance was into the specialty, and yet there was then no other avenue of entrance. He thought another stage in development had now been reached, following a natural course of evolution. The problem was not easy to solve. He asked Dr. Shambaugh if the idea that he had in mind was that a man should go into the study of oto-laryngology without an underlying foundation of years of practice. It was a very difficult problem to decide just how much general work a man should have before taking up special work. Everyone had seen the unfortunate narrowness of the man who was "only a specialist," he who had entered his medical school with the intention of becoming a specialist, and had gone through with only perfunctory compliance with the required subjects in the curriculum, but intent only upon his specialty. He thought those men were not capable for the highest type of special practice; for this, he believed, it was desirable that a man should have a university degree, a medical degree, an interneship in a good general hospital, and then the practice of general medicine for a certain length of time before becoming a student of oto-laryngology. This was a big requirement, but the man who did not do it could not be the highest type of oto-laryngologist, for a background of general medicine was necessary for the highest type of any specialty. The profession is not up against a new problem at all, and the present generation woud probably not see the solution of the problem.

Dr. George W. Boot thought a slightly different view should be taken, which was that if the undergraduates were better instructed in ear, nose and throat work they would demand more of the specialist when they got out of school. The better prepared the student was in medicine, the better prepared the oto-laryngologist would have to be to get his work later. If sufficiently well founded in oto-laryngology, there would be no danger of his sending his work to a poorly equipped specialist, for he would know a well-equipped specialist when he saw one.

Dr. J. Holinger thought the proper training of specialists was a question which must be solved, and all means for its solution must be made of. For example, the facilities in Cook County Hospital ought to be taken advantage of. But under the best conditions, there would be different opinions of different men on the same cases, and, therefore, different treatments.

Dr. Shambaugh (closing) said that where nasal conditions existed which in themselves required correction, they should, of course, be taken care of, but what he wished to emphasize was that the existence of some irregularities of the nasal septum or the fact that the patient had a nose at all, or tonsils, seemed to be sufficient in the minds of many to associate these conditions with ear trouble and to justify operations upon the septum and tonsils.

The question of internes operating upon the nose or throat was a very important one. They were all anxious to do everything they could to develop internes while they were in the hospital. The question of teaching them a technical operation like the septum operation or the tonsil operation hinged on this point: Had they a right to teach people to operate who were not prepared to diagnose the conditions for which they were operating? The decision as to whether tonsils should be operated upon hinged upon a number of important relations. The decision in many cases could not be reached without a post-nasal examination. No interne that he had ever seen had ever acquired ability to make a post-nasal examination. The decision to operate upon tonsils and adenoids was often made because of conditions found from an otoscopic examination. Dr. Shambaugh did not believe any interne ever acquired enough skill in making an otoscopic examination to determine the existence of those conditions which indicate adenoid and tonsil trouble. He believed with Dr. Holinger that these operations should be in the hands of resident specialists, and could see nothing but harm resulting from training a general practitioner in the technic of a nose or a throat operation.

As to Dr. Lewis' question regarding how much experience in general practice a man should have before taking up a specialty: there was no denying the fact that if a man practiced general medicine for five or ten years he was, in a sense, better qualified to practice in any special field than he would be if he went directly into this line of work from his hospital interneship. In the same way, a man would be a better laryngologist and otologist if he had five or ten years spent in neurology, etc. It was only another way of stating that a man would be a better specialist if he knew everything there was to know about medicine; but it was evident that this was not possible and that they must have some rational basis upon which to work. In Dr. Shambaugh's opinion, a man who took up a specialty should be a graduate from a first-class medical school and should have an interneship in a general hospital: but he questioned the advisability of expecting these men to spend five or more years in general practice before starting on their special work, which meant, as a rule, from two to three years' preparation.

The solution of this problem would be by cooperation. This was the great advantage of specialization. They did not look with approval upon a general practitioner who attempted to tinker with the specialties. In the same way, the internist had as much justification for disapproving of the specialist attempting to practice general medicine. Their best results were obtained by working in cooperation with men who were specializing in the various lines of medicine. For example, the decision as to whether tonsils should be removed was not one that could be decided in all cases by a man doing the nose and throat work. In many cases the decision hinged upon whether the patient was suffering from a systemic infection, and also upon whether there was any other likely focus which might account for the systemic symptoms. In other words, the decision to operate was very often better made by the internist than by the throat specialist.

(To be Continued.)

DE KALB COUNTY

On Wednesday, Oct. 27, 1920, the DeKalb County Medical Society met at the DeKalb County Infirmary with twenty-one members present. Mrs. James Darnell served a sumptuous banquet at 12:45 p. m. Following the dinner the meeting was called to order by the president, Dr. C. H. Wilkinson. The following program with the presenting of the patient then took place:

1. "The Saving of the Foot Function in a Child by Skin Grafting."—Dr. L. E. Barton.
2. "A Case of Addison's Disease Following a Streptococcus Sore Throat."—Dr. John P. Kane.
3. "A Case of Argyria."—Dr. Clifford E. Smith.
4. "Encephaloid Carcinoma of the Left Breast With Metastasis to the Left Orbit."—Drs. H. G. and R. A. Wright.
5. "Pulmonary Infection by Sporothrix Schenkii."—Dr. F. LeBlanc.
6. "Cases of Bone Cyst, Consanguinity, Multiple Sarcoma, Lymphatic and Spleno-myelogenous Leukemia."—Dr. J. S. Rankin.

The following officers were unanimously elected for 1921: President, Dr. J. W. Ovitz, Sycamore; vice-president, Dr. H. L. Brooks, DeKalb; secretary-treasurer, Dr. C. E. Smith, DeKalb; censor for three years, Dr. A. D. Blagden, Sycamore; delegate for two years,

Dr. C. B. Brown, Sycamore; alternate delegate, two years, Dr. S. L. Anderson, DeKalb.

FULTON COUNTY

Canton, Ill., Oct. 12, 1920.

The twenty-third annual meeting of the Fulton County Medical Society met in the Auditorium of the Y. M. C. A. building and was called to order at 2:00 p. m. by President Coleman.

Minutes of July meeting were read and adopted after adding the name of Dr. S. A. Oren to the list of members present.

The president appointed Drs. Shallenberger and Chapin as auditing committee, who reported favorably on the treasurer's report.

Treasurer's report was read and adopted.

The following officers were elected: President, Dr. R. P. Grimm, Farmington; first vice-president, Dr. L. R. Chapin, Canton; second vice-president, Dr. S. A. Oren, Lewistown; secretary-treasurer, Dr. D. S. Ray, Cuba; necrologist, Dr. P. H. Stoops, Ipava; board of censors, Dr. C. N. Allison, Canton; membership legislative committee, Dr. E. W. Shallenberger, Canton; public health, Dr. C. D. Snively, Ipava.

Shallenberger and Allison moved that the membership committee be dropped from the list of officers to comply with the By-Laws of the Illinois Medical Society. Carried.

Dr. Harry C. Blankmeyer of Springfield presented the subject: "Acidosis and a Safe Method of Treatment in Infants."

Dr. R. P. Grimm of Farmington presented a paper on "Influenza," and Dr. H. G. Herschle one on "Hemophilia With Case Report."

Fifteen members and one visitor were present.

D. S. Ray, Secretary.

ST. CLAIR COUNTY

Our October Meeting.

The regular monthly meeting of the St. Clair County Medical Society was held in the Chamber of Commerce rooms, Murphy building, East St. Louis, Ill., October 2, 1920, 8 p. m. Eighteen members and three visitors were present.

Application of A. M. Aszmann for membership was read and referred to board of censors.

Moved and seconded, that amendment to by-laws, as appearing in minutes of previous meeting, be adopted. Carried.

Moved by Dr. Skaggs, seconded by Dr. Lillie, that the Society approve the action of the Belleville branch in electing A. L. Muiren to membership. Carried.

Moved by Dr. Skaggs, seconded by Dr. Lillie, that the Society request all free clinics not to receive patients, if they do not present a letter of request for service from some physician or an approved charitable organization. Carried.

Doctors Arbuckle, Short, Hanson, Miller and E. McQuillan were appointed as a committee to arrange with clinics for co-operation.

Dr. Short read a paper on "Tonsils as Foci of Infection."

Dr. Milstead read a paper on "Teeth as Foci of Infection."

Dr. Miller read a paper on "Accessory Sinuses as Foci of Infection."

The papers were very interesting and instructive. They were discussed at length by the members.

No further business appearing, society adjourned.

Walter Wilhelmj, Secretary.

The following resolutions were adopted by the Belleville branch of the St. Clair County Medical Society:

Belleville, Ill., Oct. 9, 1920.

Whereas, Destiny has taken from our midst Dr. Washington West, an esteemed colleague and brother in medicine, be it

Resolved, By the St. Clair County Medical Society, Belleville branch, that we deeply mourn his loss.

Dr. West was a lovable character, of a sunny disposition, devoted to his profession and patients, conscientious in his work, kind to his patients and ever ready to respond to the calls of distress and of those in pain and suffering. Be it further

Resolved, That these resolutions be forwarded to his family, as a token of respect to his memory. Be it further

Resolved, That these resolutions be spread on the minutes of the St. Clair County Medical Society.

Belleville Branch,
Dr. E. P. Raab,
Dr. Adolph Hansing,
Dr. C. P. Renner,
Committee.

Personals

Dr. J. R. Kenton of Litchfield is said to be recovering from an operation for gall stones.

Dr. and Mrs. Charles Adams and Dr. Charles Gordon Fuller have sailed for Honolulu.

Dr. John J. Killeen has returned to Chicago following an extensive tour of the hospitals in Europe.

Dr. John Shore of Sailor Springs has returned from New Mexico greatly improved in health.

Dr. H. R. Gledhill of Jerseyville is said to have undergone a serious operation in a St. Louis hospital last month.

Drs. J. W. Alexander of Charleston and C. R. Harwood of Janesville are remodeling a building in Oakland for a sanitarium.

Dr. H. M. Swift of Mt. Vernon is reported planning a ten-room maternity hospital to be open to the physicians of the city.

Dr. Warren J. Murray of Jacksonville has

been appointed assistant superintendent of the Dixon State Colony.

Dr. H. H. Henning, former associate physician at Dixon State Colony, has been transferred to Lincoln State Hospital.

Dr. Della Caldwell of Carbondale, who was recently named on the staff of the Western State Hospital at Hopkinsville, Ky., is said to have resigned to continue practice in Carbondale.

Dr. and Mrs. Casey A. Wood have gone to British Guiana for the winter. Dr. Wood plans to conduct some researches on the comparative anatomy of the eye, with special reference to birds.

The advisory health committee of East St. Louis have made the office of health commissioner, filled by Dr. C. W. Lillie, a "full time" position at increased salary. They also appointed a food inspector and passed an order regulating heat in apartments.

News Notes

—A $35,000 addition to the Illinois State Hospital at Watertown is said to be planned.

—The auto bandits got Dr. G. A. Sihler's machine from the garage at Litchfield.

—The board of supervisors of Champaign county are reported to have approved an appropriation of $90,000 for a tuberculosis sanitarium.

—Contract is said to have been let for a twelve-room addition and a chapel for St. James Hospital at Pontiac.

—A county tuberculosis sanitarium is to be voted on by the people of Montgomery county on Nov. 2nd.

—Dr. Edmund J. Burke of La Salle was held up by masked robbers last month and relieved of his roll.

—The Sisters of Mercy, now conducting St. Mary Hospital in Champaign, are about to erect a new Mercy Hospital one block from the University of Illinois field.

—Dr. E. E. Hagler of Springfield is said to have suffered a loss of $50,000 when his beautiful home was destroyed by fire a few weeks ago.

—The Anti-Tuberculosis League of Jacksonville elected Dr. H. C. Woltman as president to succeed Dr. Josephine Milligan Oct. 12.

—Dr. John G. Massie of Belleville is said to have been indicted for the fraudulent sale of stock in an oil company. It is said that he was a victim to promoters as well as his friends to whom he sold stock.

—Dr. James M. Juvinall, Weldon, is reported to have pleaded guilty to a charge of issuing whisky prescriptions without previous examination and was assessed a fine of $500 and costs.

—It is reported that Drs. Cornelius J. Donovan and Walter K. Hoover, Lovington, pleaded guilty to charges of violating the Harrison Narcotic Act by failing to keep records of prescriptions on blanks provided by the government for the purpose. Both were fined $100 and costs.

Mr. Asa Bacon, superintendent of the Presbyterian Hospital in Chicago, was elected treasurer of the American Hospital Association at the recent meeting in Montreal. The Rockefeller foundation presented the association with $15,000 and will duplicate the amount later under certain conditions.

—Loyola University School of Medicine initiated a series of popular lectures on mothercraft, Monday evening, October 4. The full series of twelve lectures will be given, one on each Monday evening from now until December 20, inclusive, at the school, 706 South Lincoln Street. The lectures are free, and interested persons are invited to attend.

—The voters of Lake County will be called on at the November election to decide whether or not a tax shall be levied for the establishment and maintenance of a tuberculosis sanatorium, according to a decision recently reached by the board of supervisors. The county already owns the Lake Breeze Sanatorium, but very little use has been made of the facilities there.

—The Tri-City Medical Society gave a banquet September 30, at the Masonic Temple, Granite City, in honor of Dr. Julien W. Scott, Venice, one of the oldest members of the society. Practically all members of the medical profession of the surrounding towns were present at the banquet, including Dr. Edward W. Fiegenbaum, Edwardsville, past president of the Illinois State Medical Association.

—Voters of Madison county at the general

election will have submitted to them the proposition of a special tax levy of 1½ mills on the valuation to be used for the erection and maintenance of a county tuberculosis sanitarium.

—It is reported that the State Supreme Court has denied the appeal of Dr. Lillian Hobbs from a sentence of fourteen years imprisonment imposed after conviction on the charge of causing the death of Alda Christopherson by a criminal operation.

—At the annual banquet and election of officers of the Chicago Gynecological Society, held October 15, at the Illinois Athletic Club, the following officers were elected: President, Arthur H. Curtis; vice presidents, W. C. Danforth and Carey Culbertson; treasurer, Charles B. Reed; editor, W. A. N. Dorland; pathologist, S. S. Schochet, and secretary, Joseph L. Baer. The annual award of the society in the form of a check for $100 for the best paper presented during the year was voted to Dr. S. S. Schochet for his very exceptional piece of original research presented before the society at its March meeting and entitled "The Physiology of Ovulation." The chairman of the committee on award, Dr. Emil Ries, in announcing the decision, laid emphasis on the permanent value of this article as a real contribution to the subject.

—The United States Civil Service Commission announces an open competitive examination for anatomist. A vacancy in the office of the Surgeon General, Army Medical Museum, Washington, D. C., at $1,600 a year, plus increase granted by Congress of $20 a month, and vacancies in positions requiring similar qualifications, at this or higher or lower salaries, will be filled from this examination, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion. Applications (on Form 1312) will be received till December 7.

—At a meeting of the Institute of Medicine of Chicago, October 29, Prof. Graham Lusk, New York, delivered the first Pasteur Lecture on "Some Influences of French Science on Medicine." Professor Lusk was entertained at diner at the City Club before the meeting.

—Plans are under way for an international health and sanitation exposition, to be held at the Coliseum and Annex, November 24 to 29. Dr. John Dill Robertson, city health commissioner, is director-general of the exposition, and the State Department of Health and a number of health agencies and organizations of the city will cooperate in a visualization of the value of health campaigns.

Marriages

EDMUND LENNON QUINN to Miss Etta Anna Happel, both of Chicago, September 15.

EDWARD ARTHUR BRUCKER, of Chicago, to Miss Margaret Kremer, of Fond du Las, Wisconsin, October 13.

Deaths

WALTER SCOTT JAMES, Chicago; Rush Medical College, 1893; died September 20.

ALBERT LAURANCE FARR, Evanston, Ill.; Rush Medical College, 1880; aged 71; died October 6.

JOHN G. FRANK, Chicago; Rush Medical College, 1868; Chicago Medical College, 1871; aged 86; died October 17, from lobar pneumonia.

CHAMBERS A. MCLEAN, Decatur, Ill.; Eclectic Medical Institute, Cincinnati, 1871; aged 88; died September 16.

MORRIS J. MOTH, Chicago, Hahnemann Medical College and Hospital, Chicago, 1890; aged 67; professor of materia medica in his alma mater; died October 6.

ALBERT E. PALMER, Chicago; Rush Medical College, 1885; aged 68; died October 4, from cerebral hemorrhage.

GERHARD S. SEIM, Blue Island, Ill., College of Physicians and Surgeons, Chicago, 1892; a Fellow A. M. A.; aged 55; died October 4, of pneumonia.

WASHINGTON WEST, JR., Belleville, Ill.; Washington University Medical School, St. Louis, 1897; aged 43; died October 4, from peritonitis.

SAMUEL G. MENGLE, Chicago; University of Pennsylvania, Philadelphia, 1869; aged 70; died October 13, from cerebral hemorrhage.

JOHN PATTISON RIGGS, Media, Ill.; College of Physicians and Surgeons, Chicago, 1895; aged 76; a member of the Illinois State Medical Society; died at the Burlington (Iowa) Hospital September 23.

HOWARD MOORMAN, Christopher, Ill.; St. Louis College of Physicians and Surgeons, 1906; aged 51; a member of the Illinois State Medical Society; died October 1, from heart disease.

ADOLPH GEHRMANN, Chicago; Chicago Medical College, 1890; aged 52; a Fellow A. M. A.; emeritus professor of bacteriology and hygiene in the College of Physicians and Surgeons, Chicago; superintendent of food inspection and bacteriologist in the Chicago health department from 1894 to 1903; died October 3, from malignant tumor of the chest.

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